

## ASX & Media Release

23 July 2020

## ASX Symbol

ARL

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Company Secretary & CFO

Matt Painter  
General Manager Exploration

## Issued Capital

Fully Paid Ordinary Shares  
117,300,435

Directors/Employee  
Performance Rights  
4,276,000

ABN 30 614 289 342

# QUARTERLY OPERATIONS REPORT

For the Quarter ended 30 June 2020

## CORPORATE

With the easing of COVID-19 restrictions within Western Australia, Ardea's Kalgoorlie-based Exploration Team and Corporate Office personnel in Perth continue to be able to operate with minimal pandemic related impacts.

Non-Executive Director, Wayne Bramwell, resigned on 3 July 2020 due to increasing executive commitments. The Ardea team wish Wayne all the best.

\$2M ATO R&D refund for 2019 financial year received during the Quarter (ASX release 28 May 2020). Cash position at the end of the June Quarter was **\$10.0M**.

## DEVELOPMENT

### Goongarrie Nickel Cobalt Project (GNCP)

- **Strategic Partner** search continues with the goal of finding a preferred development partner whose offtake requirements will define project scale and end product specifications to meet their needs and secure critical, ethical long-term supplies of nickel and cobalt, with manganese, scandium and rare earth elements (REE) if so required.
- **Project Enhancements** are ongoing with a focus on completing the Goongarrie line of lode and Highway resource updates, targeting >1% nickel leach feed grade and plant optimisation predicated on mineralised neutraliser. The resource updates will also include a maiden scandium and REE component which will further demonstrate the projects' strategic value.

## EXPLORATION

### WA Gold and Nickel Sulphide

Technical reviews and follow-up field work continue to identify high quality drill targets for gold and nickel-copper-PGM sulphide exploration.

- **Bardoc Tectonic Zone Gold (BTZ)** – First-pass regional air core drilling program at Goongarrie South (ASX releases 26 June and 10 July 2020) intersects significant gold mineralisation below transported lake cover, at the **Aphrodite North** target, including:
 

○ <b>AGSA0013</b>	<b>43-44m</b>	<b>1m at 2.46g/t Au</b>
and	<b>120-127m</b>	<b>7m at 2.48g/t Au</b>
○ <b>AGSA0020</b>	<b>41-43m</b>	<b>2m at 4.46g/t Au</b>
- Priority follow-up RC drilling with a 1,500m drilling program under-way.
- **Maiden Inferred Resource** defined at Big Four Gold of 178kt at 2.7g/t gold, (0.5 g/t Au cut off) for 15,300 oz gold defined (ASX release 14 May 2020). Provides proof of concept of the gold prospectivity of the 65km of BTZ strike within Ardea's GNCP.
- **Nickel Sulphide** targeting report from consultant Newexco nearing completion for Kalpini Project. Multiple historic drill hole intersections confirm nickel sulphide fertility and project prospectivity. Prospective area identified with no prior surface EM surveys. Preliminary EM surveys proposed and a more extensive exploration program is to be developed.

# June Quarter, 2020

## Nickel Sector Commentary

Nickel demand is expected to grow strongly in the years ahead from traditional uses such as stainless steel and rapidly emerging technologies such as Lithium Ion Batteries (LIB). The majority of auto manufacturers continue to commit to nickel-manganese-cobalt (NMC) 811 batteries for their planned Electric Vehicle expansion, which uses more nickel than earlier technology batteries. This adoption of NMC 811 battery technology is expected to place even greater demand on nickel. With Ardea's Kalgoorlie Nickel Project hosting one of the largest nickel-cobalt resources in the developed world, 773Mt at 0.7% nickel and 0.05% cobalt (5.5Mt of contained nickel metal and 405kt of contained cobalt metal)<sup>^</sup>, Ardea is well placed to help provide critical supplies of ethically sourced nickel and cobalt with manganese, along with multiple Critical Minerals (notably scandium) associated with the mineralisation, providing further project optionality.

## 1. GOONGARRIE NICKEL COBALT PROJECT

The Goongarrie Nickel Cobalt Project (GNCP) is located 70km north of the mining city of Kalgoorlie-Boulder and is Ardea's most advanced development project, within the broader Kalgoorlie Nickel Project (KNP) (Figure 1 and 3). All GNCP resources are located on granted mining leases (Figure 1) with Native Title Agreement in place. The project also has mobile coverage and ready access to high quality infrastructure with the Goldfields Highway, rail line and power infrastructure passing through the project area (Figure 2). The Goldfields gas pipeline is located some 30km to the east (Figure 3).

## Feasibility Programs

Ardea's "**WINNER**" (Water, In-pit Neutraliser and Nickel Enhanced Reserve study) strategy continues with a focus on leveraging off Ardea's extensive reserve and resource base additional to its flagship GNCP\*. Other projects within short haulage distance of the planned GNCP High Pressure Acid Leach (HPAL) process plant, initially the Highway and Siberia North deposits, are being appraised for selective high-grade (>1% nickel) plant feed.

The aim is to optimise plant feed grades to a 2Mtpa HPAL plant exceeding 1% nickel for at least 15 years. Options to develop a second 2Mtpa HPAL train will also be considered. Ardea is in a unique position of having this resource optionality due to the very large size of the nickel and cobalt resources, facilitating high grading and selective recovery of key geo-metallurgical mineralisation types.

## Resource Modelling

Resource modelling is continuing on the Goongarrie Hill and Highway nickel-cobalt deposits and is expected to be completed during the September 2020 Quarter. Goongarrie Hill is the northernmost zone of nickel-cobalt-scandium mineralisation on the 25km long Goongarrie Line (Figure 1) and Highway is located only 30km north, with ready access via the sealed Goldfields Highway. Drill pulp assay results have been received for Critical Minerals including scandium and Rare Earth Elements (REE) to be quantified. These are currently being incorporated into the updated resource models leading to flow-sheet modifications to potentially recover additional by-product metals.

## High Grade Mine Schedule

Goongarrie and Highway will be included in the Life of Mine (LOM) plan and updated mining study once the resource updates have been completed, with the aim of maintaining HPAL feed grades of over 1% nickel.

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<sup>^</sup>See Appendix 1 for resource breakdown, last disclosed in Ardea 2019 Annual Report, ASX Release 24 October 2019.

Per Goongarrie Expansion Study ASX release, 24 July 2018. All the material assumptions underpinning the forecast financial information derived from a production target, in the initial public report referred to in rule 5.17 continue to apply and have not materially changed.

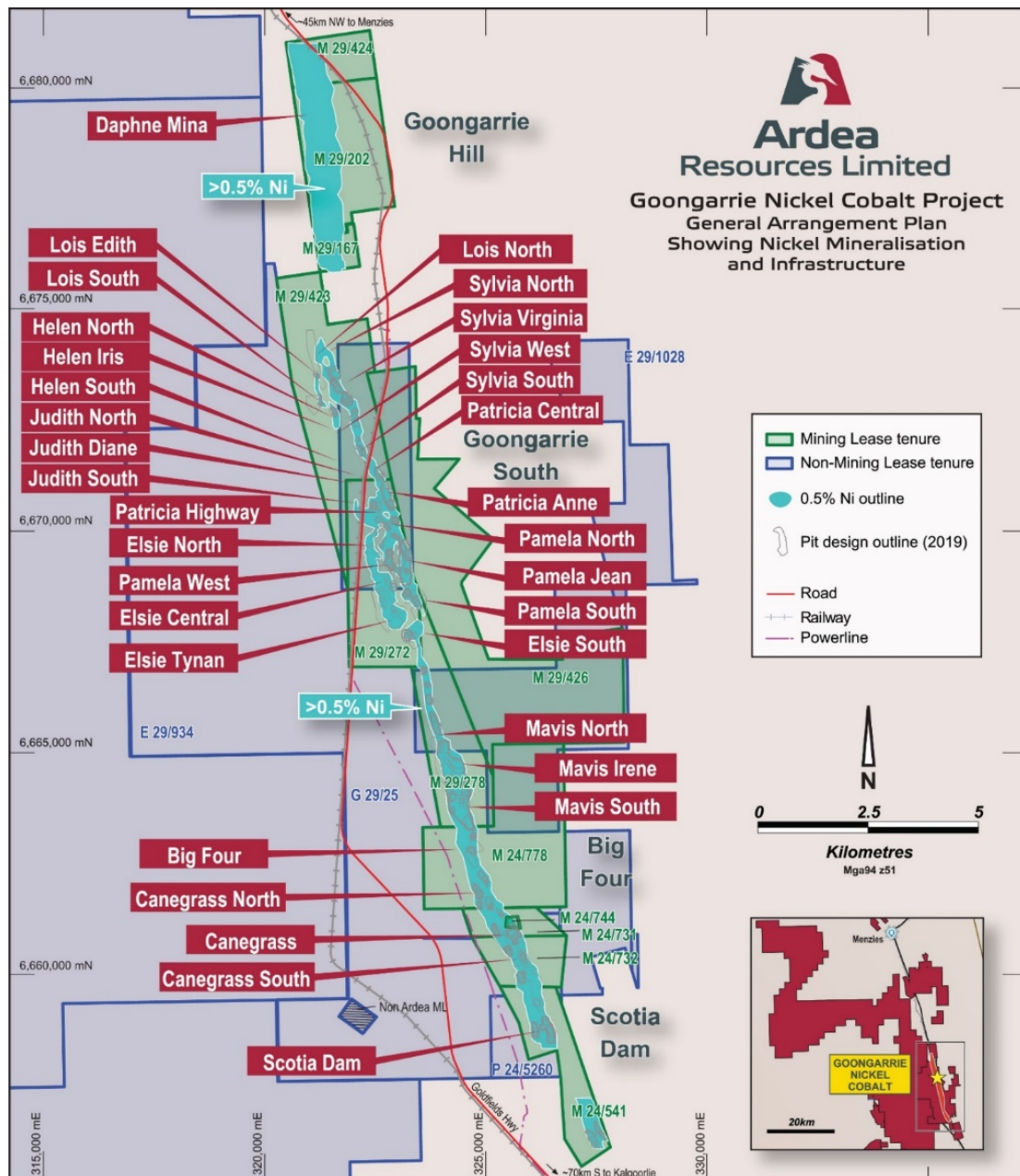


Figure 1: GNCPP general arrangement plan highlighting the extensive zones of nickel mineralisation and current open pit mine designs at Goongarrie South, Big Four and Scotia Dam. Projection GDA94 MGA94 Zone 51.

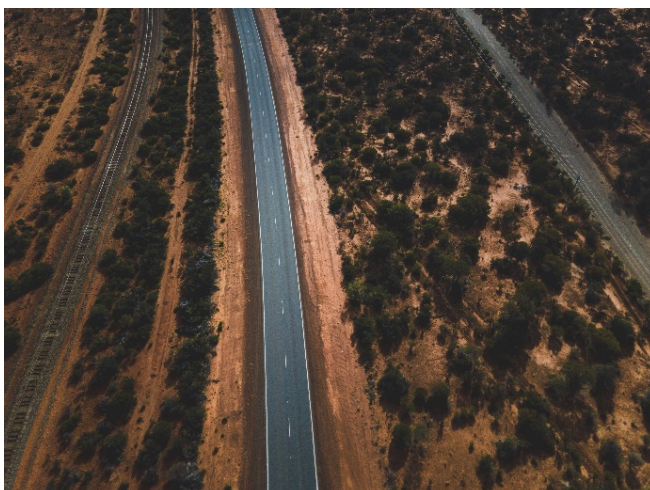


Figure 2: Aerial image of Ardea's GNCPP showing from left to right, rail, road and power infrastructure within the project.



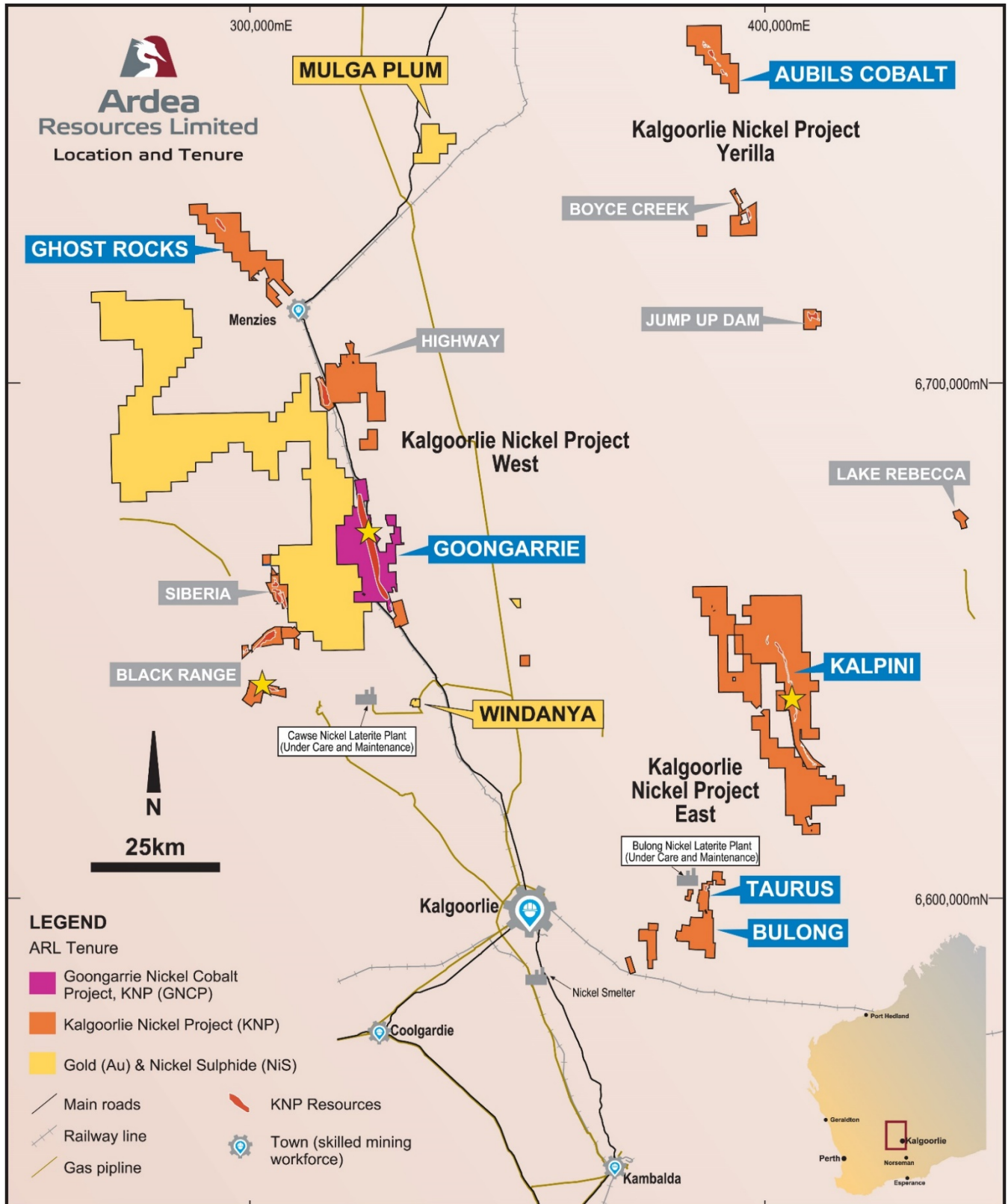


Figure 3: KNP location and infrastructure plan. Projection GDA94 MGA94 Zone 51.

## Processing Research and Development

The Research and Development (R&D) focus continues on Critical Minerals essential for new age technologies used in limiting carbon emissions, such as the Electric Vehicle (EV), Static Storage Battery (SSB) and wind-turbine sectors.

Highly-sought Critical Minerals potentially within the KNP lateritic enrichment profile include:

- NMC being the nickel-manganese-cobalt content in the cathodes of LIB;
- EV electric motor REE magnet metals notably Nd-Pr, KNP has common Ce, and potential for Dy, La, Tb.
- Scandium for scandium-aluminium lightweight-high strength EV chassis;
- High Purity Alumina (HPA) for sapphire glass in EVs and mobile devices such as phones and computers;
- Vanadium for SSBs;
- Critical Minerals targets identified within the KNP include:
  - Ba, Cr, Ga, In, Mo, Te, Ti, W, Y, Zr; and
  - Extra PGMs - Ru, Rh, Os (due to excessive assay cost, using Pt-Pd as a pathfinder in pulp re-assay).

### **Critical Minerals**

Ardea continues to engage with the Commonwealth Critical Minerals Facilitation Office. Research continued on the Ardea drill hole data base, defining multiple Critical Minerals REE settings. The REE enrichment mirrors nickel-cobalt enrichment at the Magnesia Discontinuity within the regolith profile. The R&D programs have focussed on REE recovery (notably cerium, neodymium and praseodymium) in parallel circuit with scandium (using Ion Exchange).

Drill assay pulps have been systematically re-assayed throughout the KNP starting with an approximate 80x80m collar spacing at Highway and 160x80m spacing at Goongarrie Hill. Results continue to be reviewed and interpreted.

## **2. WA GOLD AND NICKEL SULPHIDE PROJECTS**

Ardea's WA mineral exploration tenure represents a strategic land holding in Australia's premier gold and nickel sulphide province. In addition to the laterite-hosted nickel-cobalt opportunities, Ardea's tenure also hosts significant "greenfields" gold and/or nickel sulphide mineralisation (Figure 3 and 4).

The following summary updates Ardea's main WA projects detailing work undertaken during the June 2020 Quarter.

### **Ardea gold strategy**

Nickel laterite by definition will be localised upon crustal-scale Tectonic Zones (TZ), which structures control geological events from initial olivine komatiite rift volcanism, epiclastic sedimentation, Layered Mafic Complex emplacement, late stage diorite intrusion and finally through to the late stage crustal convective cells responsible for orogenic gold deposition.

The TZs are exceptional greenfields gold targets. The Bardoc Tectonic Zone (BTZ) is the northern strike continuation of the Boulder Lefroy TZ, which hosts major gold camps at Kalgoorlie-Boulder (>80Moz gold), New Celebration (3.2Moz) and the St Ives (6.5Moz).

Despite the obvious gold pedigree of Ardea's tenure, during the last 23 years it has been solely developed as a nickel-cobalt laterite project, with ownership and control successively by Heron Resources and then Vale Inco (PFS 2009). There has been no systematic and modern gold exploration.

With Ardea's acquisition of the project in 2017, for the first time in two decades, systematic gold evaluation commenced, through Ardea's gold and multi-element pathfinder assay suite and detailed geophysical data interpretation to help "see" through the cover lake sediments and blanket laterite.

In terms of developing a gold exploration model, Ardea's approach has highlighted the presence of intense deformation, iron-rich dolerite and late stage diorite intrusives within the GNCP, all the key elements for significant gold mineralisation within Kalgoorlie-Boulder's Eastern Goldfields gold province.

Ardea will continue to advance its gold strategy and has already defined well in excess of 100 targets, which have been ranked and are being systematically explored. The immediate priority is on the top ranked gold targets at the GNCP, where all drilling information helps provide critical information to assist with siting future project development infrastructure.

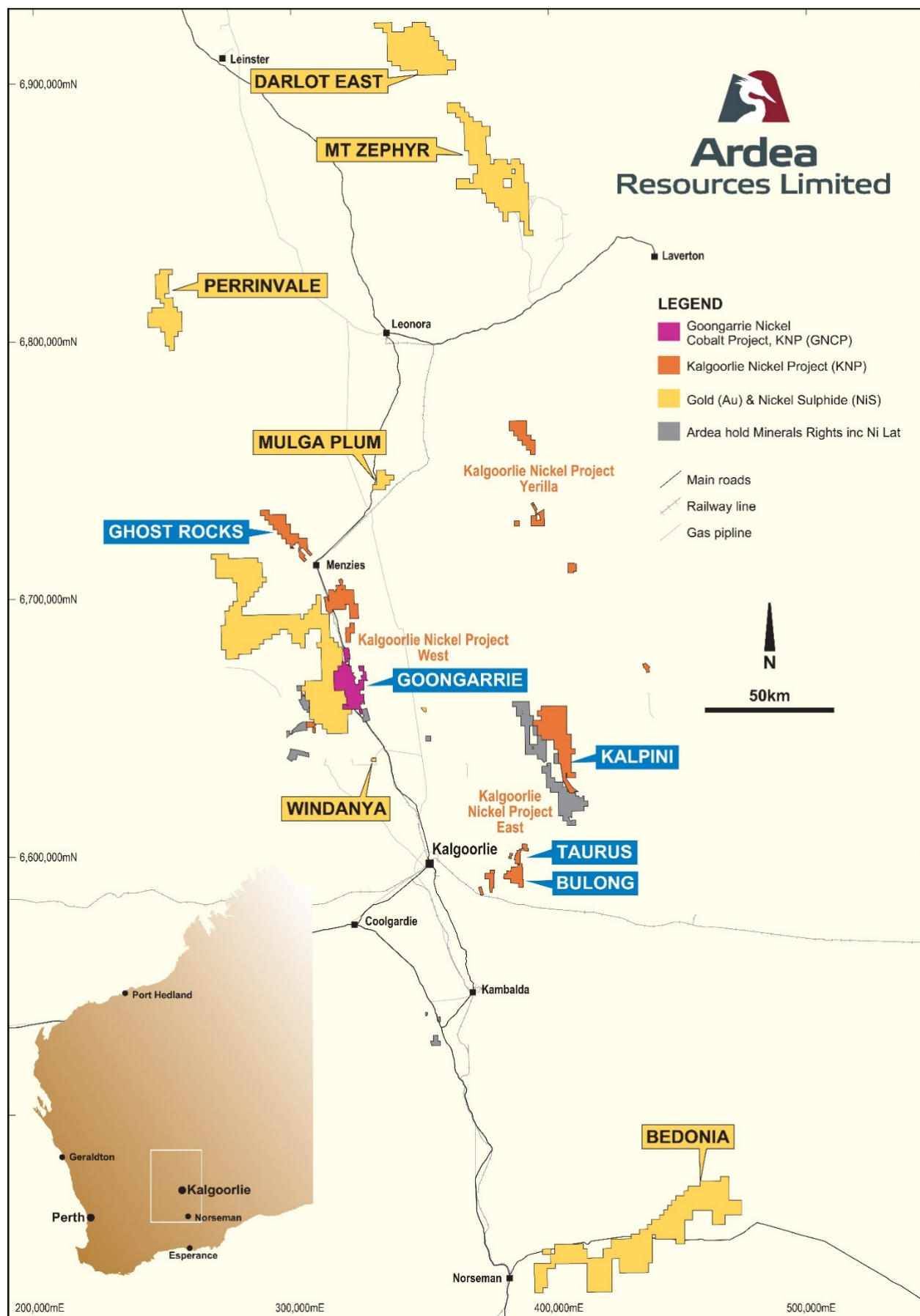


Figure 4: Ardea's Western Australian projects. Projection GDA94 MGA94 Zone 51.



## Bardoc Tectonic Zone Gold

The BTZ is a major, gold-fertile, crustal-scale structure that transects the Kalgoorlie Terrane of the Eastern Goldfields. The regional shear/fault system strikes from Paddington in the south to northwest of Ghost Rocks in the north and extends over an approximate 125km total strike length. Approximately 65km of this regionally significant structural zone occurs within Ardea tenure (Figure 5). Ardea's GNCP is unique among the world's lateritic nickel-cobalt deposits in that it has developed upon ultramafic rocks that are within and are a part of a major, crustal-scale gold-mineralised structure.

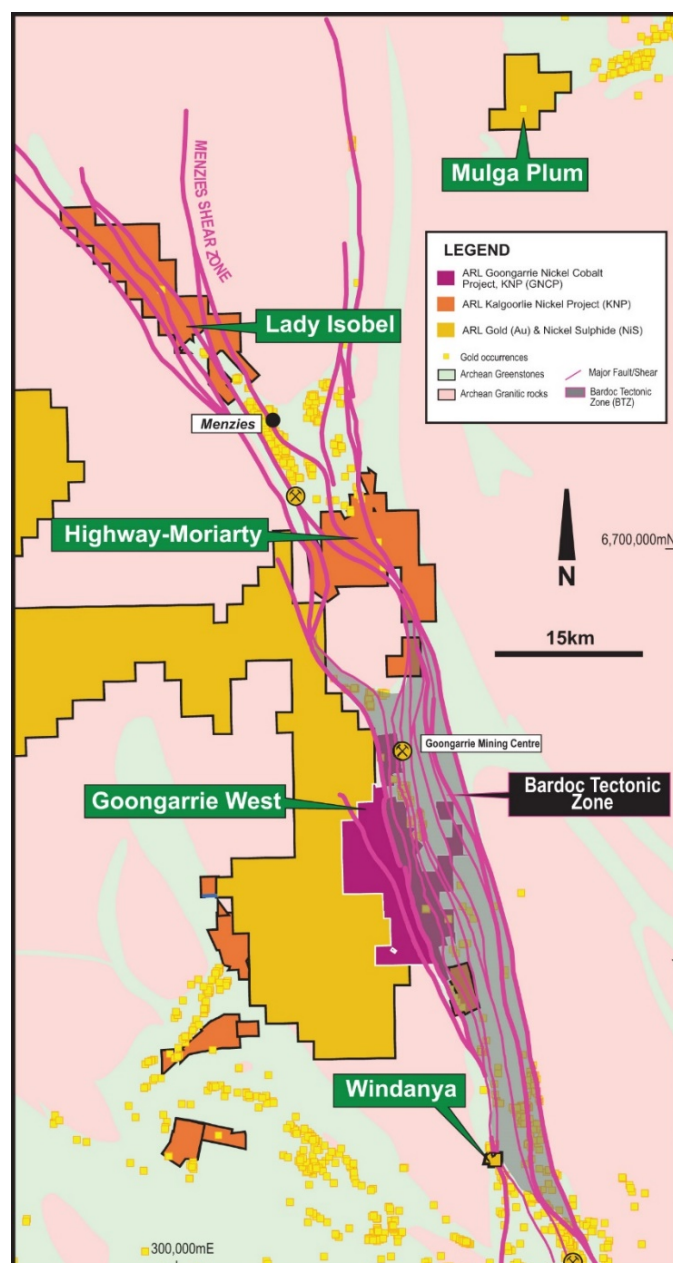
The BTZ typically dips moderately to steeply westward, hosting from south to north the historic gold mining centres at Paddington, Goongarrie, Comet Vale, Yunnadaga, Menzies, Lady Irene and Lady Isobel within the Ghost Rocks project. To the south of Paddington, the BTZ is contiguous with the Boulder-Lefroy Fault (BLF), the host to the Kalgoorlie Golden Mile, New Celebration and St Ives gold mining centres and is considered to be part of a single gold-fertile crustal structural system stretching from St Ives in the south to Ghost Rocks in the north.

Exploration for gold throughout the GNCP requires a systematic multi-disciplinary camp-scale approach to assess the deeply covered greenstone sequence. For reference, the modelled GNCP gold camp is around the strike-length of the St Ives gold camp and more than twice the length of the Kundana gold camp (Figure 6).

In contrast to all of these established gold camps, there is almost no outcrop along the GNCP. Exploration methodology is comparable to the largely concealed Yamarna greenstone belt in the far east of the Eastern Goldfields (though there is far more outcrop at Yamarna). In its favour, however, exploration of the GNCP gold camp has the advantage of leveraging off the extensive but largely ineffective (for gold) GNCP historic drill programs.

Figure 5: Ardea's BTZ tenure. Projection GDA94 MGA94 Zone 51.

Gold exploration at Goongarrie is more challenging relative to more "traditional" outcropping areas due to the deep development of the laterite profile across the GNCP. The most effective exploration method at Goongarrie is a combined structural-geochemical target model, where the structural data is derived from interpretation of the Ardea magnetic datasets, and the geochemical data is derived from KNP drill hole assay suites (which currently is only very sparse for bottom-of-hole fresh rock samples).



Gold mineralisation in the Goongarrie South area can be best resolved primarily by geochemical dispersion and secondarily by structural trap identification. It was estimated that only minimal mineralisation may be identified through structural trap identification alone, chiefly because most controlling structures either do not contrast magnetically disparate units (therefore are locally invisible) or they are not resolvable even with Ardea's high-resolution aeromagnetic data. Hence gold re-assay of available historic drill-pulps is an important tool in furthering gold exploration, where historic nickel-cobalt laterite exploration and resource definition drilling has been completed, but did not assay for gold and critical gold pathfinder elements.

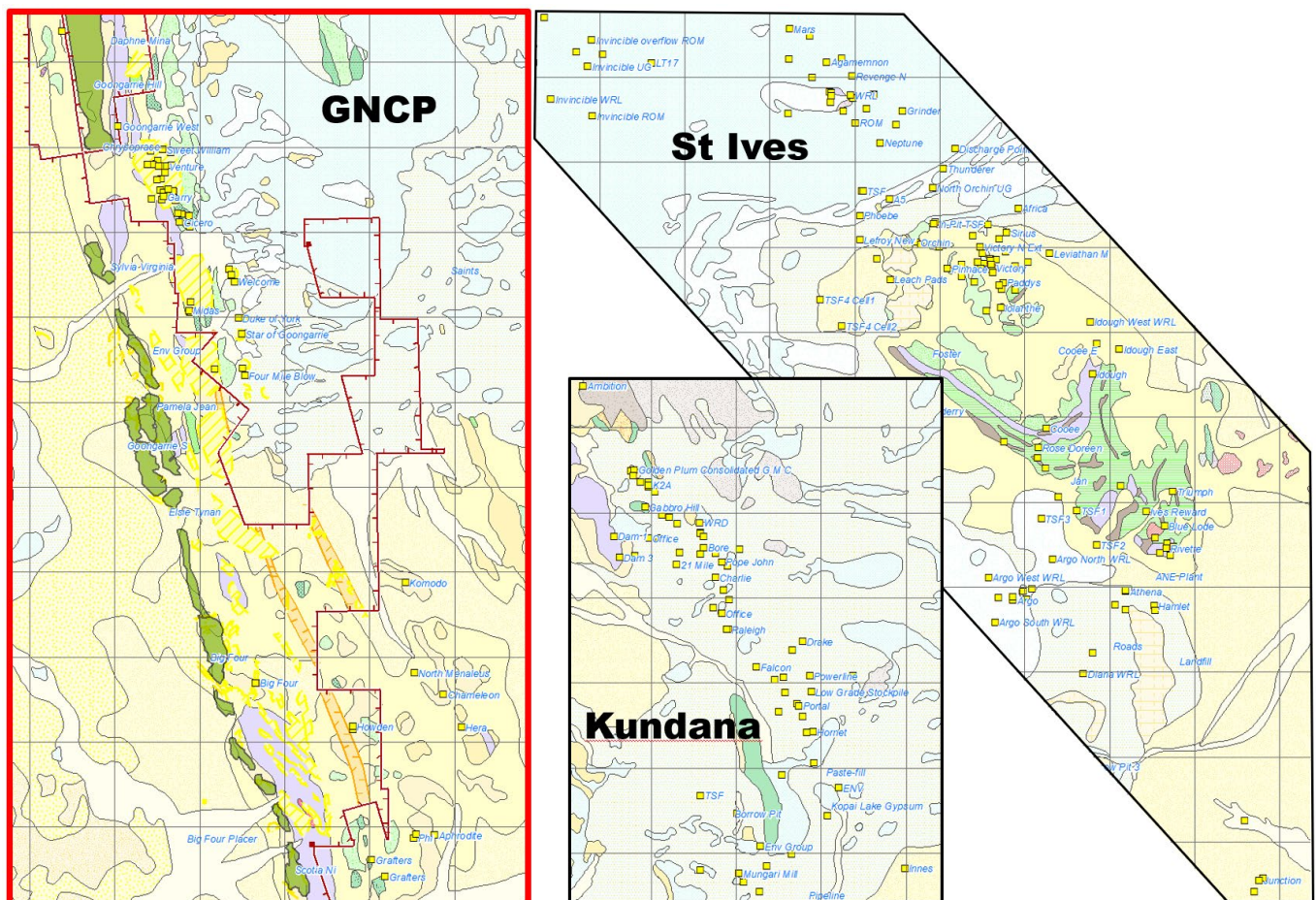


Figure 6: Comparison of various gold camps shown at the same scale as the GNCP. 2km grid. Olive green on the GNCP map are the nickel-cobalt deposits. Yellow squares show known gold occurrences.

### Big Four gold prospect

The Big Four gold prospect is located 70km north northwest of the City of Kalgoorlie Boulder, within the footprint of the GNCP. Infill and extensional drilling completed by Ardea in January 2020 (ASX release 26 February 2020) and historic data collated by the Company has enabled estimation of an Inferred Mineral Resource (ASX release 14 May 2020): 178kt at 2.7g/t gold, (0.5g/t Au cut off) for 15,300 oz gold.

This result provides proof of concept of the gold mineralisation potential of the BTZ within Ardea's GNCP, which elsewhere is concealed by Quaternary sediments and the overprinting laterite profile.

Composite samples have been selected from the RC sample bags and are currently undergoing metallurgical testwork to determine gravity recoverable gold and cyanide leach recoverable gold so that an indication on total gold recoveries is available to be able to advance discussions on monetising Big Four Gold.



During the Quarter six RC holes were drilled for 330m, exploring under surface cover for a northern strike extension of the Big Four gold mineralisation. Some prospective structure was intersected within strongly foliated and altered Siberia Komatiite, but no significant gold assay results were returned.

### Elsie North gold prospect

During the Quarter 10 RC holes were drilled for 1,175m, targeting supergene gold anomalism and prospective structural intersections under surface cover and the laterite profile. Gold anomalism was recorded in the clay cover, but no bedrock targets warranting follow up were generated.

### Grafter gold prospect

The Grafter gold prospect is an underexplored area, covering 3.7 x 1.5km at the south-eastern end of the GNCP (Figure 7), located approximately 65km north northwest of the City of Kalgoorlie Boulder. Around 80% of the area is covered by transported and laterite cover and has been interpreted from a combination of field work and desk top studies as a deformed mafic hangingwall sequence highly prone to gold mineralisation. As the area was previously held by prospectors, there has been no modern systematic exploration. The Ardea exploration team have identified similar gross structural relationships to BTZ-BLF kinks as documented at the Paddington, Kalgoorlie and New Celebration gold camps.

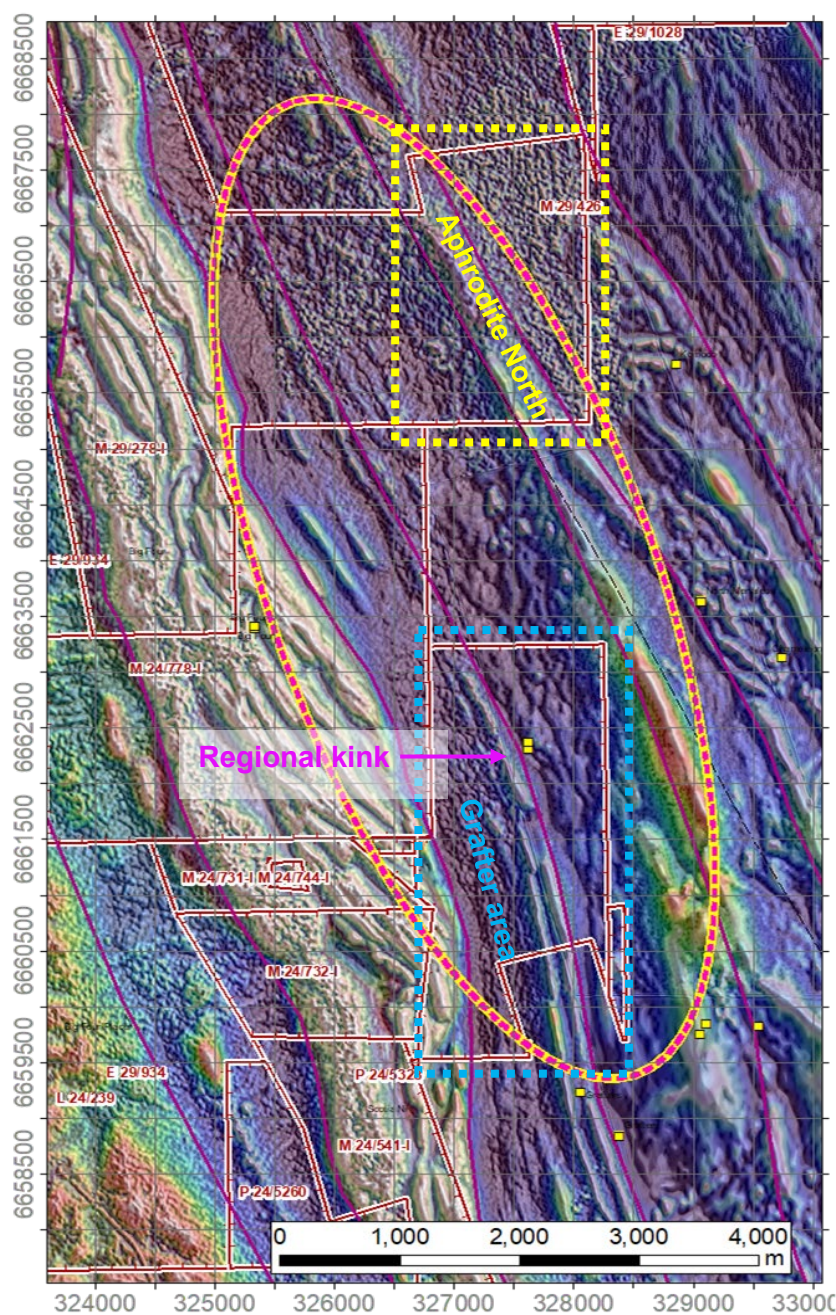


Figure 7: GNCP location plan, showing Ardea tenements in red and highlighting the location of the Grafter (blue dashed box) and Aphrodite North (yellow dashed box) prospects, on magnetic data. The larger area circled with a dashed purple and yellow line represents the Goongarrie South area covering up to 9.0 x 3.3km. Ardea believes this entire area highly prospective for hosting gold mineralisation concealed by surface cover. Projection GDA94 MGA94 Zone 51.



A first-pass RC exploration program has commenced to test three different types of target (A, B and C) at Grafter with the information gathered to be used to continue to refine the exploration targeting approach on concealed BTZ gold targets.

Where limited subcrop has been identified, encouraging signs of alteration and potential for gold mineralisation have been noted (Figure 8).



Figure 8: Left – Sulphidic altered rock from outcrop at Target C. Right - Sheeted veins in altered rock from outcrop at Target C.

### Aphrodite North gold prospect

First-pass 320m x 80m regional aircore drilling on a previously untested structural target at Goongarrie South within the GNCP (Figure 7) has intercepted prospective gold anomalism within deeply weathered saprolitic clays underlying typically 30m to 40m of transported lake sediments. A total of 46 reconnaissance aircore holes for 3,787 metres was completed at the end of May 2020. All holes were drilled to refusal, where the rock became too hard to be penetrated by aircore drilling. In most cases, this corresponds with the top of the fresh rock interface. With 6m composite samples taken (varying with geology and hole length), a total of 680 samples were collected for gold and pathfinder assay.

Composite results within the weathered profile include (ASX release 26 June 2020):

- AGSA0013: 4 m @ 0.53 g/t Au from 36m and 6 m @ 1.83 g/t Au from 118m
- AGSA0020: 5 m @ 3.91 g/t Au from 42m
- AGSA0021: 6 m @ 0.50 g/t Au from 44m
- AGSA0038: 6 m @ 0.54 g/t Au from 66m

Assay results from resampling of these intercepts at 1m intervals confirmed the target dolerite protolith, gold mineralisation thickness and grade, with highlights including (ASX release 10 July 2020):

- AGSA0013, 1m at 2.46g/t Au from 43m and 7m at 2.48g/t Au from 120m
- AGSA0020, 2m at 4.46g/t Au from 41m



Aircore is commonly used as a cost-effective means for first-pass exploration drilling and sampling of the weathered profile for dispersed (supergene) low-order anomalism. With the 1m resampling confirming gold mineralisation, deeper RC drilling was designed and commenced as a priority on 10 July 2020 and is ongoing.

The Aphrodite North target was identified on a structural feature within the BTZ connecting significant gold deposits outside of Ardea's tenure. The line connects the 1.7Moz Aphrodite gold deposit (BDC ASX release 25 June 2020) to the south, with the Goongarrie Lady and Jenny's Reward open pits at the historic Goongarrie mining centre to the north. It demarcates the contact zone between the Victorious Basalt and the overlying Black Flag Formation, and is a common host to gold anomalism. On Ardea's ground, this trend is entirely covered by around 30m to 40m depth of transported sands and lake clays located on flat scrubby plains south of Lake Goongarrie.

Encouraging visual signs of potassic alteration (sericite, biotite, quartz, carbonate and pyrite) have been noted to date in RC drill chips with drilling continuing and assay results keenly awaited (Figure 9).



Figure 9: RC drilling and drill chip logging at Aphrodite North on 10 July 2020. Note the target dolerite host rock, multiple zones of quartz veining, foliation intensity and potassic alteration - sericite, biotite, quartz, carbonate and pyrite increasing with depth.



## Highway - Moriarty gold and nickel sulphide prospects

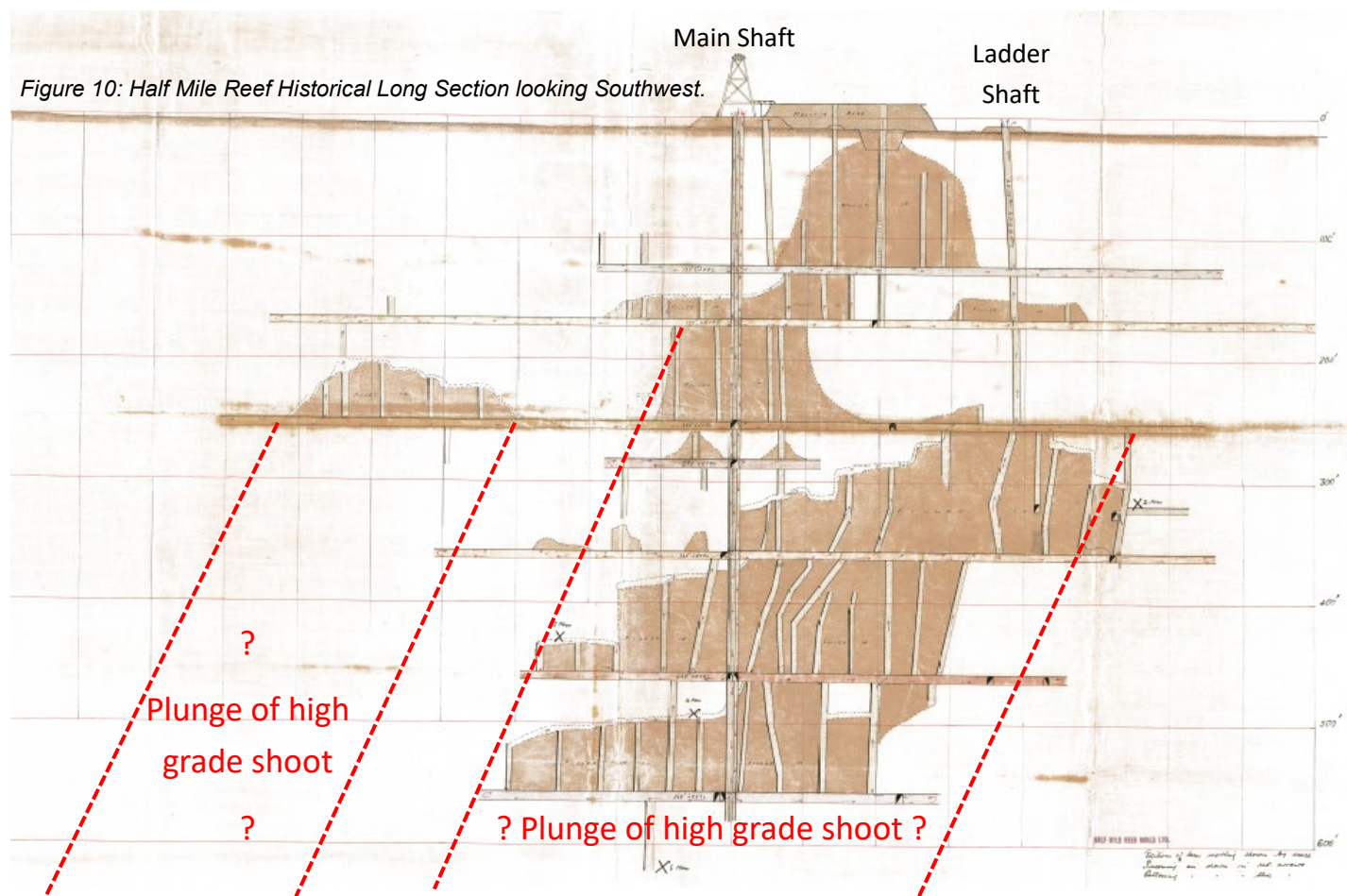
The Moriarty tenements, at the eastern margin of the Highway nickel laterite project are located immediately north of the GNCP tenements (Figure 4 and 5) within the BTZ. Detailed compilation of over 50 years of historic exploration was completed during the Quarter, including assessment of old reports, plans and drill logs, the open file drill hole database, nickel sulphide petrology and legacy EM survey information. All existing data has been compiled into a GIS digital platform with detailed geological interpretation underway and due to be completed during the September 2020 Quarter. Nickel sulphide and gold exploration targets defined will be added to and ranked against targets already defined at other Ardea projects. Follow-up exploration programs will be planned for priority projects.

## Windanya gold prospect

Windanya is a historical gold mining centre that was operational in the 1900s (see Figure 3, 4 and 5). Windanya is hosted within the BTZ, 20km south of the GNCP Scotia Dam nickel-cobalt deposit. Significant historic gold workings are evident on the tenement and extend as a corridor to other workings to the north and south of Ardea's Windanya tenement (P24/5169). The strike trend of the mineralised zone appears to be approximately 330°.

Sourcing of historic information and data interpretation continues, with a focus on the Half Mile Reef gold mine located near the centre of P24/5169. Half Mile Reef was a major underground gold mine at its peak in the early 1900s, and was the location of the regional State gold production battery. Historic records sourced for the Half Mile Reef indicate that between 1897 and 1906, 23,480 tonnes of ore were mined from an underground operation, producing 12,993 ounces of gold. This indicates a recovered gold grade of 17.2 g/t, with head grade likely to be considerably higher.

During the Quarter, significant historical data was sourced such as old mine plans and a long section (Figure 10). These files confirm that a 600 foot or 183m deep shaft was developed, with stoping to a depth of at least 170m. Level development and discontinuous stoping was completed over a distance of at least 700 foot or 213m. This information is currently being modelled in 3D to help refine the controls on high grade gold mineralisation historically mined and will be projected down plunge as a check on the effectiveness of historical drilling. Early indications suggest that the majority of historic drilling around the old mine workings was either too shallow or missed the down plunge projection. Ardea will be the first Company to compile and assess all legacy data in such detail to help guide future exploration.



## Bulong and Taurus gold prospect

Ardea's Bulong tenements are located approximately 30km east of the City of Kalgoorlie Boulder. The regionally significant crustal scale gold-controlling structure, the Goddard Fault, trends north-south and passes through Ardea's Bulong tenure (Figure 11). This structure represents a northern splay of the regionally significant Mount Monger Fault, which hosts gold mineralisation to the south, with the best-known operating mine in the area at Daisy Milano.

Historically, the focus on the Bulong tenements has been on laterite hosted nickel-cobalt mineralisation (54.1Mt @ 0.88% Ni and 0.05% Co, for 476.1kt Ni and 28.8kt Co – Ardea 2019 Annual Report), with limited historical gold exploration completed by Ardea. A detailed mapping and sampling program around the historic Taurus underlay shaft and multiple workings in the area has helped further the refine the controls on gold mineralisation in this region.

Ardea continues to work with Kalgoorlie-Boulder prospectors who have been recovering alluvial, eluvial and primary gold in the area which is assisting with target generation and furthering the understanding of the controls on gold mineralisation (Figure 12).

In addition to the significant nickel-cobalt resources hosted at Bulong, **36 exploration targets** have been defined. These range from gold, PGMs and base metals (nickel, copper, lead and zinc).

Some historic nickel-cobalt laterite drill holes have been located over some of the gold targets and a search for the historic pulps within Ardea's Kalgoorlie sample storage facilities has commenced. If the pulps can be located, they will be submitted for multi-element assay, including gold for the first time. This is a low impact and much cheaper form of exploration, as it removes the need to redrill holes.



Figure 12: Primary gold mineralisation within a quartz vein from Bulong.

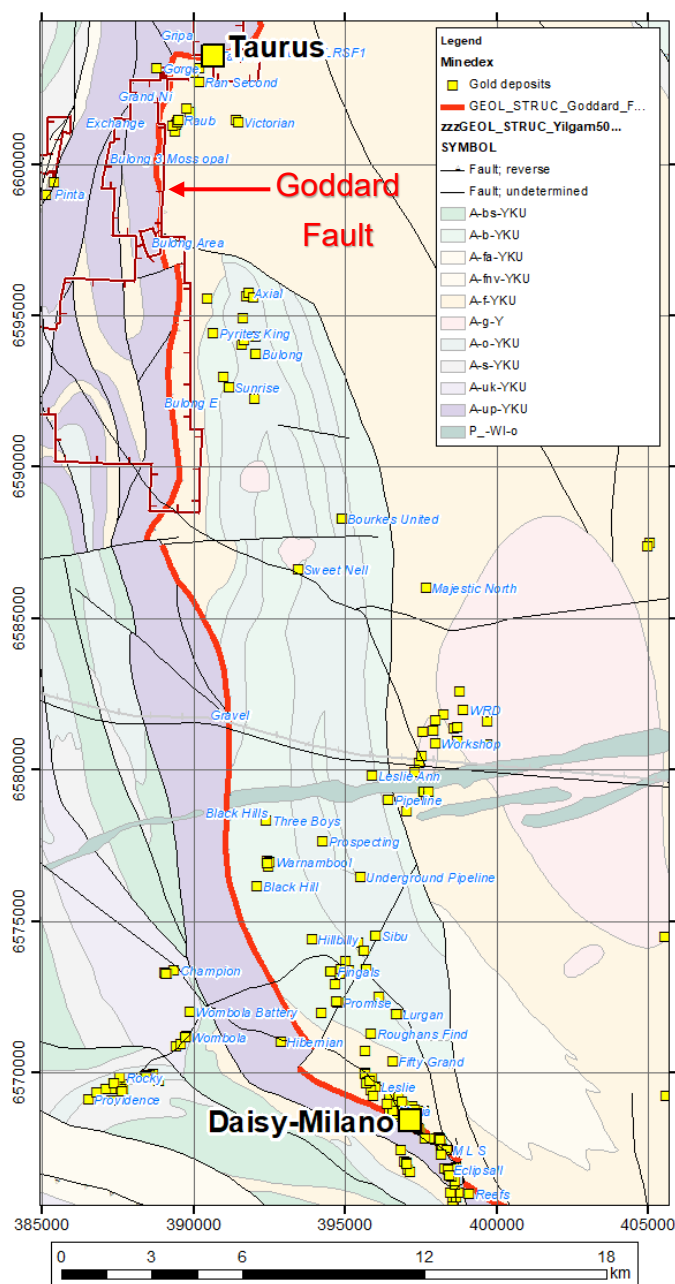


Figure 11: Bulong Project location plan showing Ardea's tenements in red and the regionally significant Goddard Fault.



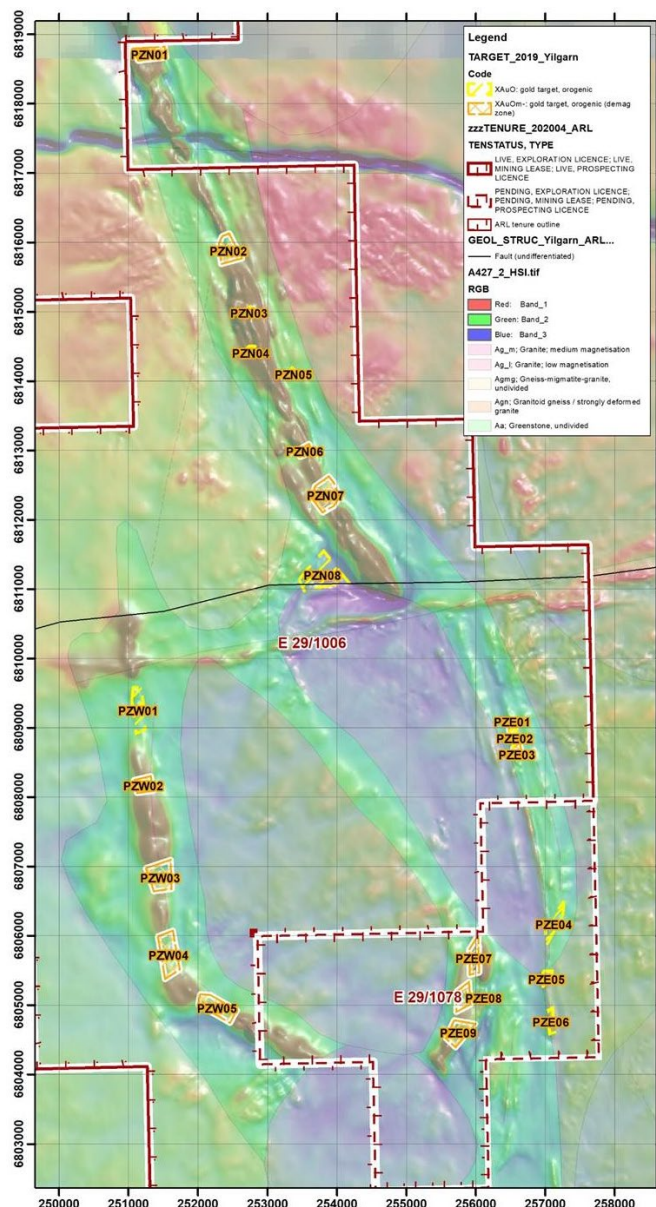
## Emu Lake nickel sulphide and gold prospect

Emu Lake is part of the Kalpini group of tenements (Figure 3 and 4) and has multiple known nickel sulphide drill hole intersections exceeding 1% nickel. Previous explorers include Jubilee Mines, Emu Nickel, Xstrata and Pioneer Nickel. The komatiite belt is known to be fertile for nickel sulphide, with previous explorers recording significant drilling results, such as 2m @ 6.2% nickel in historic core drilling (Heron Resources Limited ASX release 26 November 2013. ELD015, 2m at 6.2% Ni, 1.78% Cu, and 2.17g/t PGMs). Results of this tenor help confirm nickel sulphide endowment and prospectivity. A limited RC drilling program by Ardea in 2019 identified VMS base metals.

A large number of gazetted gold occurrences are noted just to the west of Ardea's Kalpini project, mainly associated with the Emu Fault. However, there are some historic gold occurrences within Ardea's tenements, with the area primarily assessed as a nickel-cobalt laterite project and nickel sulphide exploration opportunity in the past. As a result of this, gold exploration has been limited.

Ardea is continuing the assessment of the historic data from the region with the assistance of leading nickel sulphide and EM consultants Newexco, to define and rank a pipeline of nickel sulphide exploration targets.

## Perrinvale nickel sulphide and gold prospect



No new nickel sulphide target generation activities were undertaken during the Quarter. However, a gold targeting review was undertaken and reaffirmed that the eastern part of the tenure overlies poorly exposed greenstones along the northern extension of the Zuleika Shear system, which is a known gold bearing structure at Kundana, south of Ardea's tenure. The fact that there are no gazetted gold occurrences over the greenstone belt within Ardea's tenure, is believed to be a function of the surface cover hiding the prospective basement rocks.

An internal review of geophysical datasets, focussed predominantly on the interpretation of aeromagnetic data, has defined a number of targets (Figure 13). These have been ranked and added to Ardea's ranking system and represent regional targets that would be best explored with wide spaced RAB or Aircore drilling to drill through the surface cover and collect samples for geological logging and geochemical sampling. This data would then be used to help vector in on any bedrock gold anomalism defined, which could lead to a greenfields discovery. Higher priority gold targets along the BTZ are currently taking precedence.

Figure 13: New gold targets defined for the Perrinvale project, overlay on an aeromagnetic dataset with Ardea's tenements shown in red. Projection GDA94 MGA94 Zone 51.



### Bardoc Tectonic Zone Nickel Sulphide

Work is still at an early stage on defining nickel sulphide potential throughout Ardea's ground holding in the Bardoc Tectonic Zone (BTZ). Several defined occurrences and anomalies at Big Four East, Highway and Moriaty are being used to further assess the ultramafic sequences of the GNCP, where nickel sulphide mineralisation, if it exists, would be located in fresh rock beneath the lateritic deposits. Using various geochemical markers and vectors, targets are being developed for drill testing. Samples are also being sourced for a planned chromite study, which can help determine nickel sulphide fertility.

## 3. CORPORATE

### Strategy

Ardea is sufficiently well funded to continue multiple work streams with a priority on the GNCP **"WINNER"** enhancements focused on resource updates as part of the high-grade nickel strategy. The GNCP Strategic Partner process will continue as will gold and nickel sulphide exploration. With multiple gold and nickel sulphide exploration targets defined, Ardea believes it has the targets, personnel and project portfolio to make a significant mineral discovery that will further compliment the globally significant KNP nickel-cobalt resource.

### Finance

The Company's cash position is **\$10M** at Quarter end.

Issued capital at 30 June 2020 was 117,300,435 shares.

## 4. LOOKING FORWARD

During the September 2020 Quarter, Ardea will focus upon the following programs.

### Kalgoorlie Nickel Project

Ongoing review of Kalgoorlie Nickel Project geological settings favourable for gold, nickel sulphide and Critical Minerals. This work can be cost effectively undertaken using Ardea's extensive database, sample pulps available for re-assay at the Kalgoorlie office and detailed geophysical datasets.

### Goongarrie Nickel Cobalt Project

#### Strategic Partner Process

Widen the search in light of the ongoing commitments to electric vehicles and static storage batteries from international battery producers and vehicle manufacturers. The COVID-19 situation has impacted on the ability to engage with some battery groups, and some planned Ardea events have been cancelled. Engagement with groups such as the Australian Government-backed Critical Minerals Facilitation Office will continue.

#### Resource Upgrades

Complete the Goongarrie Hill and Highway resource updates, continue the Kalpini data review and resource update and then commence Siberia North and other nickel-cobalt prospects proximal to the GNCP to define the optimum mine plan and maximise HPAL nickel feed grades.

#### GNCP Flowsheet Research and Development

The SysCAD model will continue to be refined based on expected water sources, quality and in-pit sourced neutraliser with outputs used to optimise the flow sheet. The core focus is minimising the project development foot-print and adhering to Western Australia's world-class safety, health, environmental and operating standards.

## WA Gold and Nickel Sulphide Projects

First-pass RC drilling of gold targets at Aphrodite North and Grafter commenced in July and is scheduled to be completed during the September 2020 Quarter. Results will be assessed and appropriate follow-up work planned.

Gold exploration target definition will continue over all of Ardea's projects. The immediate priority is the 65km of Bardoc Tectonic Zone strike extent controlled by Ardea followed by Bulong.

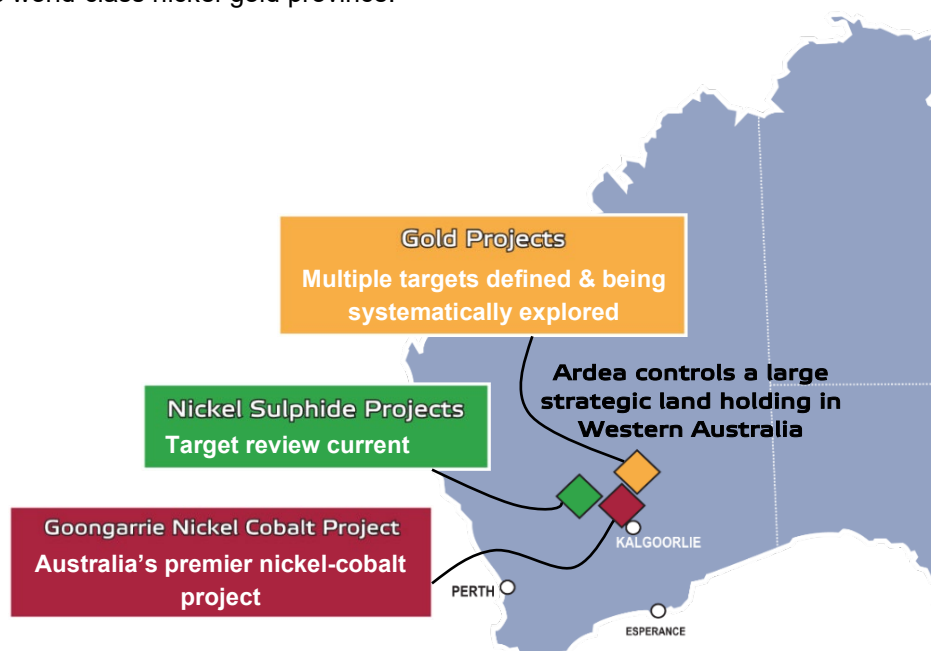
Well regarded nickel sulphide exploration consultants, Newexco are expected to complete their nickel sulphide target review over Ardea's Emu Lake Kalpini project in the September 2020 Quarter. This will allow targets to be ranked and follow-up exploration planned. These targets will then be ranked against Ardea's other nickel sulphide targets at Highway, Big Four East, Perrinvale, Black Range and Bulong so that exploration can be prioritised.

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

## About Ardea Resources

Ardea Resources (ASX Code: **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 at WA nickel sulphide, gold and Critical Minerals targets within the Eastern Goldfields world-class nickel-gold province.



For further information regarding Ardea, please visit [www.ardearesources.com.au](http://www.ardearesources.com.au) or contact:

## Ardea Resources

Andrew Penkethman

Managing Director and Chief Executive Officer

Tel +61 8 6244 5136

**COMPLIANCE STATEMENT (JORC 2012)**

A competent person's statement for the purposes of Listing Rule 5.22 has previously been announced by the Company for:

1. Kalgoorlie Nickel Project on 21 October 2013 and 31 July 2014, October 2016, 2016 Heron Resources Annual Report and 6 January 2017;
2. KNP Cobalt Zone Study on 7 August 2017, PFS 28 March 2018 and Expansion Study 24 July 2018;
3. Goongarrie Nickel Cobalt Project, Supplementary Prospectuses 10 February 2017, Ardea Annual Report Nov 2017, ASX announcements 28 June 2017, 4 July 2017, 28 August 2017, 14 March 2018, 24 July 2018, 8 October 2018;
4. Ardea Resources Prospectus November 2016, Ardea Supplementary Prospectuses 6 January 2017, ASX announcements 9 March 2017, 16 March 2017, 26 April 2017.
5. Maiden Resource for Big Four Gold Project, WA, ASX announcement 14 May 2020.
6. Significant gold exploration results from new target at Goongarrie, ASX announcement 26 June 2020.
7. Follow-up RC drilling commences at the Aphrodite North gold target, ASX announcement 10 July 2020.

The Company confirms that it is not aware of any new information or data that materially affects information included in previous announcements, and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. All projects are subject to new work programs, notably drilling, metallurgy and JORC Code 2012 resource estimation as applicable.

The information in this report that relates to Exploration Results and Resource Estimates for the Goongarrie Nickel Cobalt Project is based on information originally compiled by previous and current full-time employees of Heron Resources Limited and current full-time employees of Ardea Resources Limited. The Exploration Results, Resource Estimates and data collection processes have been reviewed, verified and re-interpreted by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration 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 Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

The exploration and industry benchmarking summaries are based on information reviewed by Dr Matthew Painter, who is a Member of the Australian Institute of Geoscientists. Dr Painter 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 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, Mineral Resources and Ore Reserves'. Dr Painter has reviewed this press release and consents to the inclusion in this report of the information in the form and context in which it appears.

**ASX CHAPTER 5 COMPLIANCE AND PFS CAUTIONARY STATEMENT**

The Company has concluded that it has a reasonable basis for providing the forward-looking statements and forecast financial information included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and all material assumptions, including the JORC modifying factors, upon which the forecast financial information is based are disclosed in this announcement. This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules.

The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain material factors were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.

The Goongarrie Nickel Cobalt Project is at the PFS phase and although reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Actual results and developments of projects and the scandium market development may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.

A key conclusion of the PFS and Expansion Study, which are based on forward looking statements, is that the Goongarrie Nickel Cobalt Project is considered to have positive economic potential.

The Mineral Resource used for the PFS was classified under JORC 2012 Guidelines and announced by the Company on 14 March 2018. The cut-off grades adapted for the PFS and reported in Table 3.1 are the basis of the production target assumed for the PFS.

The Company believes it has a reasonable basis to expect to be able to fund and further develop the Goongarrie Nickel Cobalt Project. However, there is no certainty that the Company can raise funding when required.



**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 programs, 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, 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.**

## APPENDIX 1 – Mineral Resource Estimate

Kalgoorlie Nickel Project nickel-cobalt mineral resource (JORC 2012) (Ardea Annual Report 2019, 24 October 2019)

Resource Category	Quantity (Mt)	Nickel (%)	Cobalt (%)	Contained nickel (t)	Contained cobalt (t)
Measured	9.6	1.02	0.10	98,800	9,700
Indicated	232.9	0.75	0.06	1,759,700	141,200
Inferred	530.5	0.68	0.05	3,600,000	254,400
<b>KNP Total Resources</b>	<b>773.0</b>	<b>0.70</b>	<b>0.05</b>	<b>5,458,400</b>	<b>405,400</b>

Note: 0.5% nickel cut-off grade used to report resources. Note figures are rounded to reflect degree of certainty and may not tally.

*In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A:*

*The information in this report that relates to Resource Estimates for the Kalgoorlie Nickel Project is based on information originally compiled by previous and current full-time employees of Heron Resources Limited and current full-time employees of Ardea Resources Limited. The Resource Estimates and data collection processes have been reviewed, verified and re-interpreted by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration 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 Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.*

*There has been no Material Change or Re-estimation of the Mineral Resource since the last formal announcement by Ardea Resources in the Ardea Annual Report 2019, ASX Release 24 October 2019.*

## Appendix 5B

### Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Ardea Resources Limited

ABN

30 614 289 342

Quarter ended ("current quarter")

30 June 2020

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (12 months) \$A'000
<b>1.</b>	<b>Cash flows from operating activities</b>		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(798)	(3,664)
	(b) development	(223)	(1,277)
	(c) production	-	-
	(d) staff costs	(114)	(587)
	(e) administration and corporate costs	(45)	(599)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	18	171
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives – R&D Refund	1,925	1,910
1.8	Other (provide details if material) – Godolphin Costs – to be repaid on IPO	-	(886)
	Godolphin Costs repaid on listing	-	935
<b>1.9</b>	<b>Net cash from / (used in) operating activities</b>	<b>763</b>	<b>(3,997)</b>

<b>2.</b>	<b>Cash flows from investing activities</b>		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	(3)	(13)
	(d) exploration & evaluation	-	-
	(e) investments	-	(203)



<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (12 months) \$A'000</b>
	(f) other non-current assets	-	
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	32	32
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material) - Bond refunds from Godolphin	-	146
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>29</b>	<b>(38)</b>
<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	2,853
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>2,853</b>
<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>	<b>792</b>	<b>(419)</b>
4.1	Cash and cash equivalents at beginning of period	9,213	11,187
4.2	Net cash from / (used in) operating activities (item 1.9 above)	763	(3,997)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	29	(38)

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (12 months) \$A'000</b>
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	2,853
4.5	Effect of movement in exchange rates on cash held	-	
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>10,005</b>	<b>10,005</b>

<b>5.</b>	<b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1	Bank balances	255	813
5.2	Call deposits	9,750	8,400
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
<b>5.5</b>	<b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>10,005</b>	<b>9,213</b>

<b>6.</b>	<b>Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1	Aggregate amount of payments to related parties and their associates included in item 1	182
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<p><i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i></p> <p><i>Salaries, Directors fees and Consulting fees paid to Directors - \$169,444</i></p> <p><i>Payments for Kalgoorlie Office to a Director related entity for the quarter - \$12,605</i></p>		

## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

<b>7. Financing facilities</b> <i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1 Loan facilities	-	-
7.2 Credit standby arrangements	-	-
7.3 Other (please specify)	-	-
7.4 <b>Total financing facilities</b>	-	-
7.5 <b>Unused financing facilities available at quarter end</b>		-
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

<b>8. Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1 Net cash from / (used in) operating activities (item 1.9) – excluding R&D Refund	(1,162)
8.2 (Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3 Total relevant outgoings (item 8.1 + item 8.2)	(1,162)
8.4 Cash and cash equivalents at quarter end (item 4.6)	10,005
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	10,005
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	8.6
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>	
8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: N/A	
8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: N/A	



## Mining exploration entity or oil and gas exploration entity quarterly cash flow report

8.8.3 Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?

Answer: N/A

*Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.*

## Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 23 July 2020

Authorised by: Ardea Board of Directors

## Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

## Interests in Mining Tenements and Petroleum Tenements Lapsed, Relinquished or Reduced

### Ardea WA Tenements

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)

### Ardea NSW Tenements

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)

## Interests in Mining Tenements and Petroleum Tenements Acquired or Increased

### Ardea WA Tenements

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)
E28/2978	Kalpini	Application	0	100
M27/512	Kalpini	Application	0	100
E39/2188	Yundamindra	Application	0	100

### Ardea NSW Tenements

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)

## Ardea Resources Limited Tenement Schedule (WA) as at 30 June 2020

### Goongarrie Nickel Cobalt Project

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E24/196	Goongarrie	100	Live		M24/541	Goongarrie	100	Live	
E24/209	Goongarrie	100	Live		M24/731	Goongarrie	100	Live	3
E24/211	Goongarrie	100	Pending		M24/732	Goongarrie	100	Live	3
E29/934	Goongarrie	100	Live		M24/744	Goongarrie	100	Live	
E29/1028	Goongarrie	100	Live		M24/778	Goongarrie	100	Live	3
E29/1038	Goongarrie	100	Live		M29/167	Goongarrie	100	Live	
E29/1039	Goongarrie	100	Pending		M29/202	Goongarrie	100	Live	
E29/1045	Goongarrie	100	Live		M29/272	Goongarrie	100	Live	
E29/1048	Goongarrie	100	Live		M29/278	Goongarrie	100	Live	
E29/1060	Goongarrie	100	Pending		M29/423	Goongarrie	100	Live	
E30/500	Goongarrie	100	Live		M29/424	Goongarrie	100	Live	
E30/501	Goongarrie	100	Live		M29/426	Goongarrie	100	Live	
E30/502	Goongarrie	100	Live		P24/5260	Goongarrie	100	Live	
G29/25	Goongarrie	100	Pending		P24/5328	Goongarrie	100	Live	
L24/239	Goongarrie	100	Live		P24/5329	Goongarrie	100	Live	
L29/134	Goongarrie	100	Live		P24/5265	Goongarrie-Car Boyd	100	Live	
L29/135	Goongarrie	100	Live		P24/5169	Goongarrie-Windanya	100	Live	
L30/67	Goongarrie	100	Live		M24/919	Goongarrie-Scotia	100 Ni rights	Live	6
L30/68	Goongarrie	100	Live		M24/959	Goongarrie-Scotia	100 Ni rights	Live	6

**GNC Expansion  
Siberia**

Tenure	Location	Ardea Interest (%)	Status	Note
E24/203	Siberia	100 non Au-Ag rights	Live	4
E29/889	Siberia	100 non Au-Ag rights	Live	4
M24/634	Siberia	100 non Au-Ag rights	Live	1,4
M24/660	Siberia	100 non Au-Ag rights	Live	4
M24/663	Siberia	100 non Au-Ag rights	Live	4
M24/664	Siberia	100 non Au-Ag rights	Live	4
M24/665	Siberia	90 non Au-Ag rights	Live	2,4
M24/683	Siberia	100 non Au-Ag rights	Live	4
M24/686	Siberia	100 non Au-Ag rights	Live	4
M24/772	Siberia	100 non Au-Ag rights	Live	4
M24/797	Siberia	100 non Au-Ag rights	Live	4
M24/915	Siberia	100 non Au-Ag rights	Live	4
M24/916	Siberia	100 non Au-Ag rights	Live	4
P24/5235	Siberia	100	Live	
P24/5236	Siberia	100	Live	
P29/2484	Siberia	100	Live	
P29/2485	Siberia	100	Live	
P24/5416	Siberia	100	Pending	
P24/5417	Siberia	100	Pending	
P24/5418	Siberia	100	Pending	

**GNC Expansion  
Black Range**

Tenure	Location	Ardea Interest (%)	Status	Note
M24/757	Black Range	100 non Au-Ag rights	Live	4
M24/973	Black Range	100 non Au-Ag rights	Pending	4
P24/4395	Black Range	100 non Au-Ag rights	Live	4
P24/4396	Black Range	100 non Au-Ag rights	Live	4
P24/4400	Black Range	100 non Au-Ag rights	Live	4
P24/4401	Black Range	100 non Au-Ag rights	Live	4
P24/4402	Black Range	100 non Au-Ag rights	Live	4
P24/4403	Black Range	100 non Au-Ag rights	Live	4

**GNC Expansion  
Highway**

Tenure	Location	Ardea Interest (%)	Status	Note
E29/1082	Highway	100	Pending	
E29/1083	Highway	100	Pending	
E29/1089	Highway	100	Pending	
M29/214	Highway	100	Live	
P29/2501	Highway	100	Live	
P29/2559	Highway	100	Pending	
P29/2560	Highway	100	Pending	
P29/2561	Highway	100	Pending	
P29/2562	Highway	100	Pending	

**GNC Expansion  
Ghost Rocks**

Tenure	Location	Ardea Interest (%)	Status	Note
E29/941	Ghost Rocks	100	Live	
E29/981	Ghost Rocks	100	Live	
P29/2511	Ghost Rocks	100	Live	
P29/2512	Ghost Rocks	100	Live	
P29/2513	Ghost Rocks	100	Live	
P29/2514	Ghost Rocks	100	Live	
P29/2515	Ghost Rocks	100	Live	
P29/2538	Ghost Rocks	100	Live	
P29/2539	Ghost Rocks	100	Live	

**Kalpini Hub**
**GNC Expansion**

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E27/524	Kalpini	100 non-Au rights	Live	9	P25/2454	Kalpini-Bulong	100	Live	
E27/606	Kalpini	100	Live		P25/2455	Kalpini-Bulong	100	Live	
E27/607	Kalpini	100	Live		P25/2456	Kalpini-Bulong	100	Live	
E28/1224	Kalpini	100	Live		P25/2457	Kalpini-Bulong	100	Live	
E28/2978	Kalpini	100	Pending		P25/2458	Kalpini-Bulong	100	Live	
M27/395	Kalpini	100	Live		P25/2459	Kalpini-Bulong	100	Live	
M27/506	Kalpini	100	Live		P25/2460	Kalpini-Bulong	100	Live	
M27/512	Kalpini	100	Pending		P25/2461	Kalpini-Bulong	100	Live	
M28/199	Kalpini	100	Live		P25/2482	Kalpini-Bulong	100	Live	
M28/201	Kalpini	100	Live		P25/2483	Kalpini-Bulong	100	Live	
M28/205	Kalpini	100	Live		P25/2484	Kalpini-Bulong	100	Live	
E27/278	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2559	Kalpini-Bulong	100	Live	
E27/438	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2560	Kalpini-Bulong	100	Live	
E27/520	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2561	Kalpini-Bulong	100	Live	
E27/579	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2609	Kalpini-Bulong	100	Live	
E28/1746	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2613	Kalpini-Bulong	100	Live	
E28/2483	Kalpini-Pioneer	100 Ni Lat Ore	Live	5	P25/2614	Kalpini-Bulong	100	Live	
E25/578	Kalpini-Bulong	100	Pending		P25/2615	Kalpini-Bulong	100	Live	
M25/59	Kalpini-Bulong	100	Live		P25/2650	Kalpini-Bulong	100	Pending	
M25/134	Kalpini-Bulong	100	Live		P26/4542	Kalpini-Bulong	100	Pending	
M25/145	Kalpini-Bulong	100	Live		P26/4543	Kalpini-Bulong	100	Pending	



Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
M25/151	Kalpini-Bulong	100	Live		M31/488	Kalpini-Lake Rebecca	100	Pending	
M25/161	Kalpini-Bulong	100	Live		P31/2038	Kalpini-Lake Rebecca	100	Live	
M25/171	Kalpini-Bulong	100	Live		P31/2039	Kalpini-Lake Rebecca	100	Live	
M25/187	Kalpini-Bulong	100	Live		P31/2040	Kalpini-Lake Rebecca	100	Live	
M25/209	Kalpini-Bulong	100	Live						

### Yerilla Hub

#### GNCP Expansion

Tenure	Location	Ardea Interest (%)	Status	Note
E39/1954	Yerilla-Aubils	100	Live	
E31/1092	Yerilla-Boyce Creek	100	Live	
E31/1169	Yerilla-Boyce Creek	100	Live	
E31/1208	Yerilla-Boyce Creek	100	Pending	
E31/1213	Yerilla-Boyce Creek	100	Live	
M31/483	Yerilla-Boyce Creek	100	Live	
M31/475	Yerilla-Jump Up Dam	100	Live	
M31/477	Yerilla-Jump Up Dam	100	Live	
M31/479	Yerilla-Jump Up Dam	100	Live	

### WA Regional

Tenure	Location	Ardea Interest (%)	Status	Note
E39/2188	Yundamindra	100	Pending	
M15/1101	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1263	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1264	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1323	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1338	WA Regional	Pre-emp Ni-Co Lat	Live	7
M27/510	WA Regional	100 Ni Lat Ore	Live	8
M27/272	Kanowna East	Non-Au Rights	Live	10

### Kookynie Gold-Nickel

Tenure	Location	Ardea Interest (%)	Status	Note
E40/350	Kookynie	Option for 100	Live	
E40/357	Kookynie	Option for 100	Live	

### Perrinvale Nickel-Gold

Tenure	Location	Ardea Interest (%)	Status	Note
E29/1006	Perrinvale	100	Live	
E29/1078	Perrinvale	100	Pending	

### Mt Zephyr Gold-Nickel

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E37/1271	Mt Zephyr	100	Live		E39/1706	Mt Zephyr	100	Live	
E37/1272	Darlot East	100	Live		E39/1854	Mt Zephyr	100	Live	
E37/1273	Darlot East	100	Live		E39/1985	Mt Zephyr	100	Live	
E37/1274	Mt Zephyr	100	Live						

### Bedonia Gold-Nickel

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E63/1827	Bedonia	100	Live		E63/1929	Bedonia	100	Live	
E63/1828	Bedonia	100	Live		E63/1974	Bedonia	100	Live	
E63/1856	Bedonia	100	Live		E63/1976	Bedonia	100	Live	
E63/1857	Bedonia	100	Live		E63/1995	Bedonia	100	Pending	
E63/1928	Bedonia	100	Live		E63/2008	Bedonia	100	Pending	

### Donnelly River Graphite

Tenure	Location	Ardea Interest (%)	Status	Note
E70/4804	Donnelly River	100	Pending	

### Ardea Resources Limited Tenement Schedule (NSW) as at 30 June 2020

#### Lachlan Fold Belt – Ardea

Tenure	Location	Ardea Interest (%)	Status	Note
EL 8557	Restdown Lithium	100	Live	



# Ardea Resources Limited Quarterly Report as at 30 June 2020

## Notes:

1. Britannia Gold Ltd retains precious metal rights.
2. Impress Ventures Ltd has a 10% equity free-carried interest to a decision to mine.
3. Barrick (PD) Australia Limited retains certain Au claw-back rights and royalty receivable.
4. Ora Banda Mining Ltd holds Au-Ag rights while Ardea retains all non Au-Ag rights.
5. Acra JV – Northern Star Resources Ltd earn-in with Pioneer Resources Ltd. Former holds gold rights while latter retains nickel sulphide rights. Ardea retains rights to Ni laterite ore.
6. Black Mountain Gold Limited all rights with exception of Ardea retaining Ni rights.
7. Ramelius Resources Limited assignee (Maximus Resources Ltd) all rights, Ardea pre-emptive right to Ni-Co laterite.
8. Pioneer Resources Limited assignee (Paddington Gold Pty Ltd) owns all mineral rights (except nickel sulphide) while Ardea retains rights to nickel laterite ore.
9. Kalnorth Gold Ltd owns Au rights while Ardea retains non-Au rights.
10. Northern Star (Kanowna) Limited holds Au rights. Ardea retains non-Au rights.