

**ASX & Media Release**

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**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**

Katina Law  
*Chair*

Matt Painter  
*Managing Director*

Ian Buchhorn  
*Technical Executive Director*

**Issued Capital**

*Fully Paid Ordinary Shares*  
83,341,081

*Unlisted options  
exercisable at \$0.25*  
12,310,022

*Unlisted Loyalty options  
exercisable at \$0.77*  
17,845,774

*Directors/Employee  
Performance Rights*  
4,230,000

**ABN 30 614 289 342**

# QUARTERLY OPERATIONS REPORT

December Quarter, 2017

## Pre-Feasibility Study (PFS), Goongarrie Nickel Cobalt Project

- The Goongarrie Nickel Cobalt Project is the focus of the PFS on the KNP Cobalt Zone.
- PFS is nearing completion with several optimisation opportunities becoming apparent that may have a significant positive impact on project economics.
- Numerous milestones achieved, including:
  - Cobalt sulphate and nickel sulphate produced at bench-scale
  - Definition of efficient High-Pressure Acid Leach (HPAL) with mixed sulphide (MS) precipitation flowsheet
  - Plant site selected will allow for future modular expansion
  - Pit optimisations complete for 1 Mtpa throughput scenario, being finalised for 1.5 Mtpa throughput
  - Tenement applications lodged to secure groundwater and further mineral rights.

## Definitive Feasibility Study (DFS), Goongarrie Nickel Cobalt Project

- Board has approved head start on DFS drill programs
- Reverse circulation drilling underway at Goongarrie South and Big Four to upgrade resources and reserves in PFS-scheduled pits
- PQ diamond and sonic drilling program to commence imminently to source QAQC and DFS piloting material

## Lewis Ponds Zn-Pb-Ag-Au-Cu project, NSW

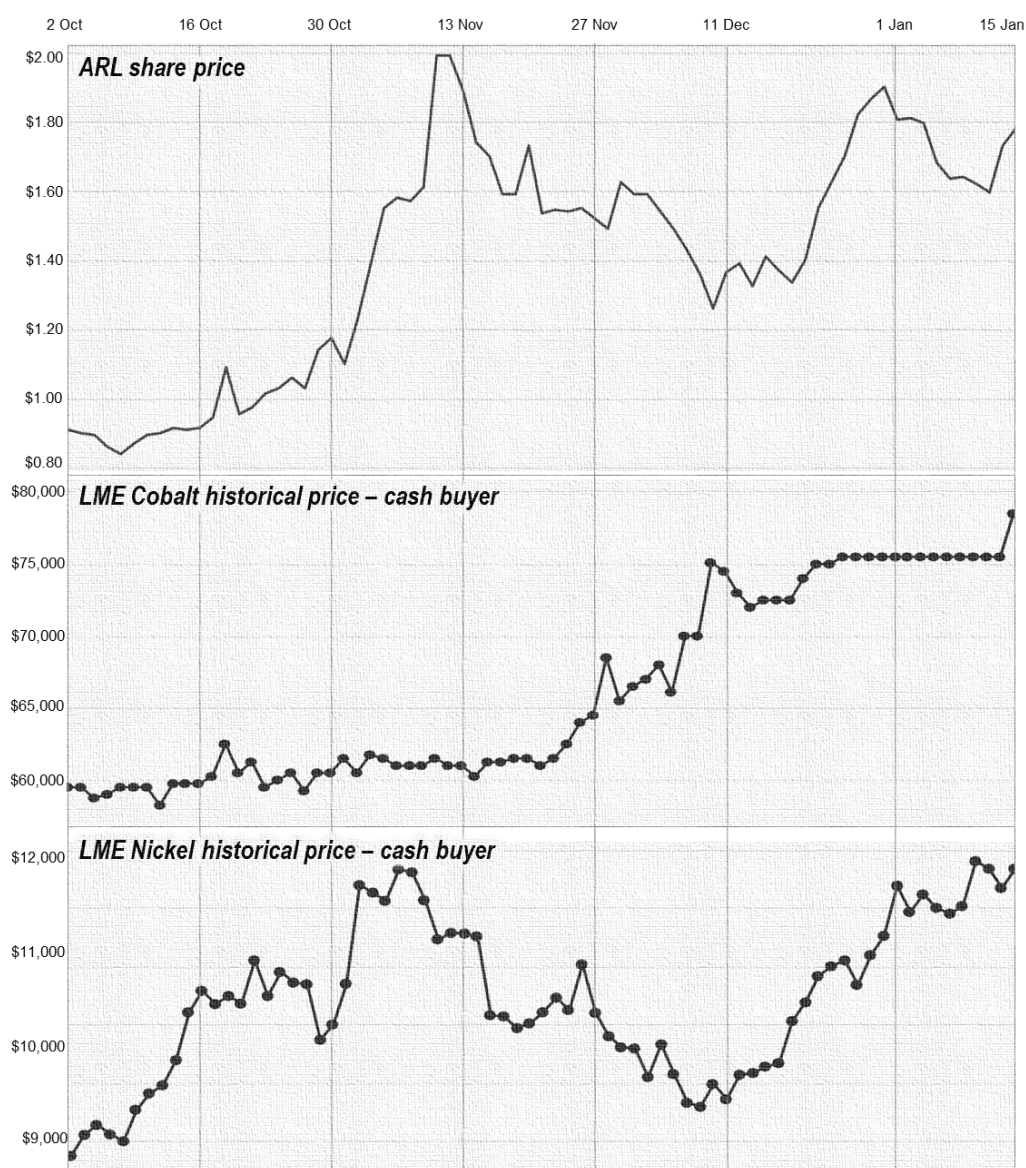
- Scoping study advancing well – restoring, relogging, and sampling historic drill core.
- Zinc and lead-copper-gold-silver concentrates produced at bench-scale.

## Goongarrie Nickel Cobalt Project PFS nearing completion

With working capital boosted by the August 2017 raisings and continued uptake of the \$0.77 loyalty options, Ardea finds itself in the fortunate position of being well-funded for its programs and budget. This has allowed the Company to accelerate work programs, with a near-doubling of staff over the quarter.

The PFS is nearing completion. There are many aspects of the study that will exceed the requirements for a PFS-level evaluation and will position the company well for the DFS. De-risking of the project, notably through additional drilling and metallurgical work, will result in a greater confidence of the development of mining at Goongarrie South and Big Four. This new hub, from these two mines within the KNP Cobalt Zone, will be known as the **Goongarrie Nickel Cobalt Project**.

Figure 1 – Ardea's share price (top), cobalt price (middle), and nickel price (bottom) over the course of the quarter. Same horizontal scale. Metal price data sourced from the London Metals Exchange ([www.lme.com](http://www.lme.com))



Positive sentiment from the battery industry continues to gather pace, with the Automotive Electrification Revolution gaining momentum. The quarter saw auto manufacturers commit to an electrified future in unprecedented numbers, with some companies (most notably Volkswagen Group) committing tens of

billions of euros to the development of electrified vehicles and lithium ion batteries. In all, over 500 new electrified models will be in production by 2030, with many manufacturers yet to declare their hand.

**Ardea views the KNP Cobalt Zone as a premier multi-commodity deposit in a stable and mature mining location that is well-placed to deliver materials of high purity and accepted provenance into a rapidly expanding battery and electrified vehicle sector.**

## Company objectives

Ardea's corporate objective is to become a significant supplier of cobalt and nickel sulphate from the Goongarrie Nickel Cobalt Project in Western Australia (WA), and zinc, gold and silver in concentrates from Lewis Ponds in New South Wales (NSW)

Ardea's plan is to expedite exploration and development of the Goongarrie Nickel Cobalt Project in WA and the Lewis Ponds zinc-gold-silver deposit in NSW towards production for the benefit of shareholders. In addition, it will leverage its broad, high-quality exploration portfolio to deliver value. This may include exploration, mine development, a spin-out or other divestment options that best deliver the Company's strategic objectives.

## The Goongarrie Nickel-Cobalt Project, KNP Cobalt Zone

The Goongarrie Nickel-Cobalt Project is that part of the KNP Cobalt Zone that is the focus of initial mining for the Pre-Feasibility Study. It incorporates the Goongarrie South deposits, the Big Four deposits, and the Scotia Dam deposit (Figure 2). Other adjoining areas are also being assessed and may be included into the project depending on throughput and results of the study.

*Table 1 – KNP Cobalt Zone, Resource Statement from RMRC and HGMC consulting groups. All figures are appropriately rounded to reflect the degree of certainty. Updated resources are presently being calculated.*

| Area                   | Prospect            | Resource category | Cut-off (% Co) | Size (Mt)   | Co (%)      | Ni (%)      | Contained cobalt (t) | Contained nickel (t) |
|------------------------|---------------------|-------------------|----------------|-------------|-------------|-------------|----------------------|----------------------|
| Goongarrie             | Goongarrie South    | Measured          | 0.08           | 4.6         | 0.16        | 1.12        | 7,200                | 51,600               |
|                        |                     | Indicated         | 0.08           | 12.9        | 0.13        | 0.79        | 17,300               | 101,300              |
|                        |                     | Inferred          | 0.08           | 7.8         | 0.14        | 0.72        | 10,500               | 56,100               |
|                        |                     | Subtotal          | 0.08           | 25.3        | 0.14        | 0.83        | 35,000               | 209,000              |
|                        | Big Four            | Indicated         | 0.08           | 9.2         | 0.13        | 0.75        | 12,100               | 68,500               |
|                        |                     | Inferred          | 0.08           | 2.2         | 0.13        | 0.57        | 2,800                | 12,500               |
|                        |                     | Subtotal          | 0.08           | 11.4        | 0.13        | 0.71        | 14,900               | 81,000               |
|                        | Scotia              | Indicated         | 0.08           | 1.13        | 0.18        | 0.86        | 2,000                | 9,700                |
|                        |                     | Inferred          | 0.08           | 1.37        | 0.17        | 0.79        | 2,300                | 10,900               |
|                        |                     | Subtotal          | 0.08           | 2.50        | 0.17        | 0.82        | 4,300                | 20,600               |
|                        | Goongarrie subtotal |                   | 0.08           | 39.6        | 0.14        | 0.80        | 54,200               | 310,600              |
| Siberia                | Black Range         | Indicated         | 0.50(Ni)       | 9.3         | 0.09        | 0.67        | 8,200                | 62,300               |
|                        |                     | Inferred          | 0.50(Ni)       | 9.9         | 0.10        | 0.69        | 9,600                | 68,300               |
|                        |                     | Subtotal          | 0.50(Ni)       | 19.2        | 0.09        | 0.68        | 17,800               | 130,600              |
| Yerilla                | Aubils              | Inferred          | 0.08           | 6.0         | 0.15        | 0.90        | 9,000                | 54,000               |
| <b>KNP COBALT ZONE</b> |                     | <b>Total</b>      |                | <b>64.4</b> | <b>0.13</b> | <b>0.77</b> | <b>81,000</b>        | <b>495,200</b>       |

## Forward strategy

A major advance during the quarter was the selection of the flowsheet for the processing of cobalt and nickel mineralisation at the Goongarrie nickel-cobalt project.

It is recognized that the third and fourth generation HPAL processing plants did not face many of the start up issues of previous generation plants. This can be attributed to the later generation designs adopting a **lower CAPEX modular approach, achieving their target production in several stages.**

The resource for the KNP Cobalt Zone remains at **64.4 Mt at 0.13 % cobalt and 0.77 % nickel** (reported using 0.08 % cobalt lower cut-off generally, and a 0.5 % nickel cut-off at Black Range, see Table 1 above for breakdown). New, updated resources are being calculated for inclusion in the PFS.

### Pre-Feasibility Study nearing completion

Work on the PFS is well advanced. There are a number of option studies underway which could have a significant positive impact on the economics of the project. The company is working hard to complete these in the scheduled timeframe.

With the HPAL-MS flowsheet firmed and benchmarked during the quarter, plant design is being finalised. Mining schedules are in the final stages of refinement, and these define a series of pits stretching from Patricia Anne (in the north of Goongarrie South) to the central parts of the Big Four area in the south.

A series of key milestones have been reached and place us well to complete the PFS in a timely manner:

- **Selection of a plant site on mining lease M29/272-I** – positioned immediately adjacent to the sealed Goldfields Highway, the Kalgoorlie-Malcolm railway line, reticulated power, and fibre optic cable. The site is located immediately southwest of the focus of high-grade mineralisation at Pamela Jean Deeps (Goongarrie South).
- **Site layout defined** – with the selected plant site providing ample room for increased plant capacity with planned future throughput upgrades.

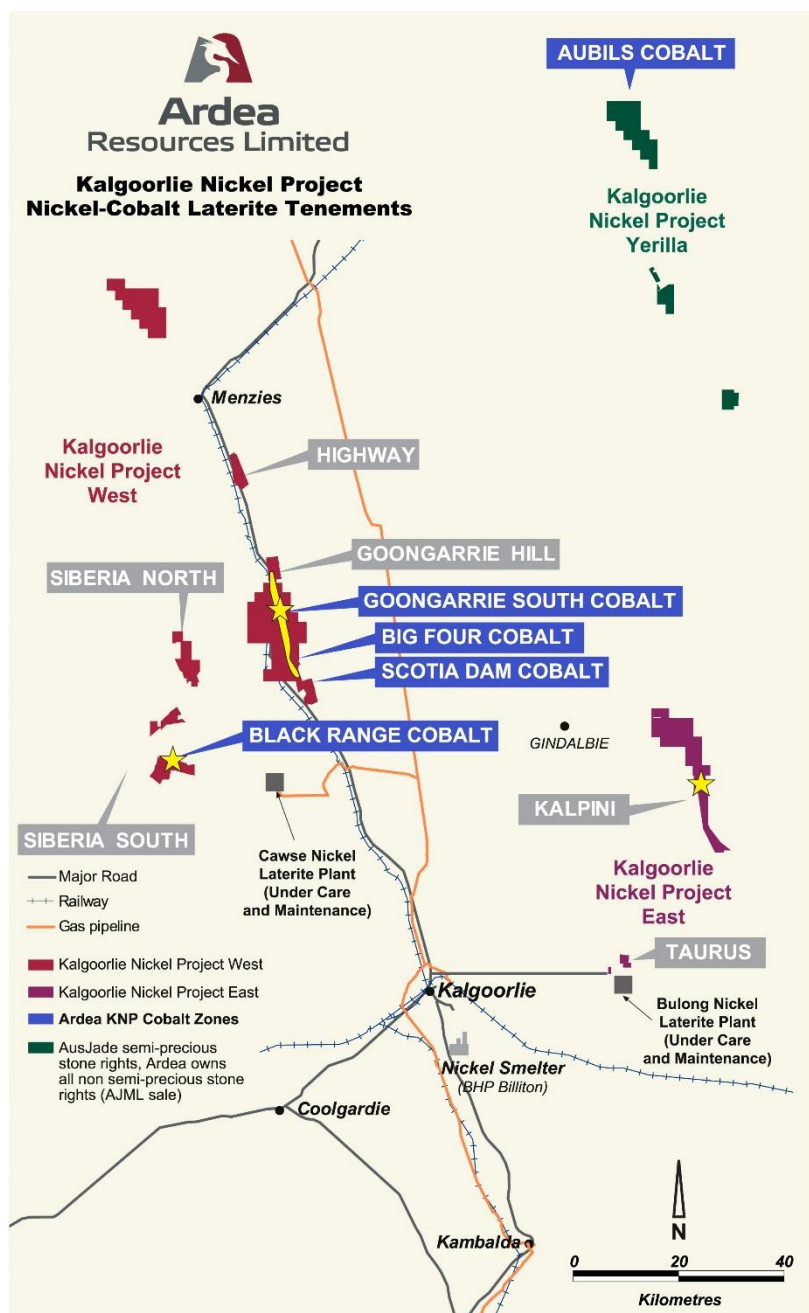


Figure 2 – Location of drill programs (yellow stars) and resource remodels (yellow polygon) throughout the KNP Cobalt Zone during the September quarter of 2017. The Goongarrie Nickel-Cobalt Project is shown in yellow, incorporating Goongarrie South, Big Four, and Scotia Dam.

- **Energy and mass balances achieved** – with an on-site acid plant providing both the acid required for processing of the run-of-mine material in the autoclave and, as the generation of the acid is exothermic, the electricity and power required for the full functioning of the site.
- **Vendor quotes for all capital items received.**
- **Pit optimisations have been run at a 1 Mtpa throughput** – with a 1.5 Mtpa upside case being tested.
- **Acid neutralisers are sourced entirely on-site** – with near-surface calcrete, within-sequence dolomite, and footwall magnesite all proving as viable neutralising agents.

Ultimately, the operation will span the boundary of the Shire of Menzies (the site of the plant) and the City of Kalgoorlie-Boulder. Drive-in-drive-out (DIDO) is proposed to maximise the local workforce based in Kalgoorlie-Boulder. Both the City of Kalgoorlie-Boulder and the Shire of Menzies have expressed their support for the project. Indigenous engagement is progressing well, with several community support initiatives currently being investigated.



*Figure 3 – Looking northeast towards the preferred plant site from the Goldfields Highway.*

## Selection of HPAL–MS flowsheet

The selection of a high-pressure acid leach (HPAL) flowsheet that combines mixed sulphide (MS) precipitation will enable on-site production of high-purity materials for the battery industry. Focus will be on the production of cobalt sulphate and nickel sulphate. Some of the advantages of this hydrometallurgical flowsheet are:

- The ability to produce by-products (e.g. scandium, manganese, and chromium) with zero impact upon cobalt and nickel production.
- The flexibility to tailor or modify the flowsheet to produce alternative cobalt and nickel products (other than sulphates) should that be required.

In selecting HPAL, many factors were considered, including:

- Capital expenditure (CAPEX) to develop HPAL is very similar to the atmospheric leach alternatives, with HPAL actually lower cost than most variations of atmospheric leach assessed (reflecting the additional reagent consumption and recovery requirements of atmospheric leaching).
- Operational expenditure (OPEX) is considerably lower for HPAL than for atmospheric alternatives.
- HPAL offers considerably lower acid consumption, which is significant in terms of cost and environmental considerations.
- Plant development times will be significantly shorter using “off-the-shelf” HPAL components rather than developing new plant and processes.

Finalised costings and detailed flowsheets will be published in the formal Pre-Feasibility Study.

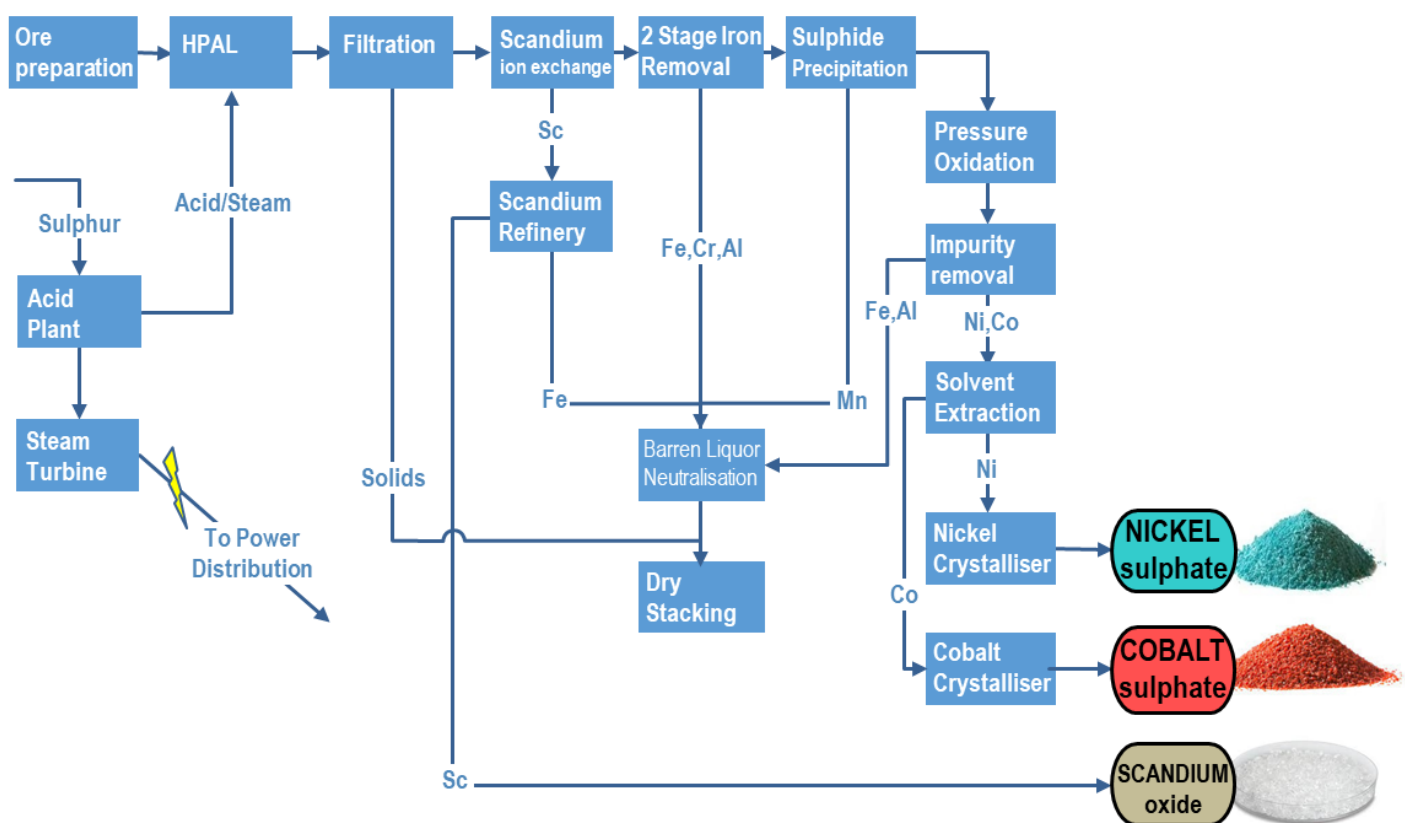


Figure 4 – Idealised high-level flowsheet for the processing of cobalt-nickel mineralisation from the KNP Cobalt Zone at Goongarrie. The flowsheet indicates commercially proven extraction processes for impurity removal prior to nickel and cobalt crystallisation. The scandium circuit is an optional module which may or may not be included in the final design.

## HPAL benchmarking

Ardea has reviewed in detail the most recent operations globally that have the used HPAL and MS precipitation flowsheet. Successful operations at Moa Bay, Coral Bay 1 & 2 and Taganito produce nickel and cobalt via the HPAL and MS route, and their operations are being bench-marked to ensure best practice will be followed at Goongarrie.

The use of HPAL on the KNP Cobalt Zone will follow on from the successful implementation of HPAL-MS at numerous deposits globally.

### Potential for scandium as a by-product

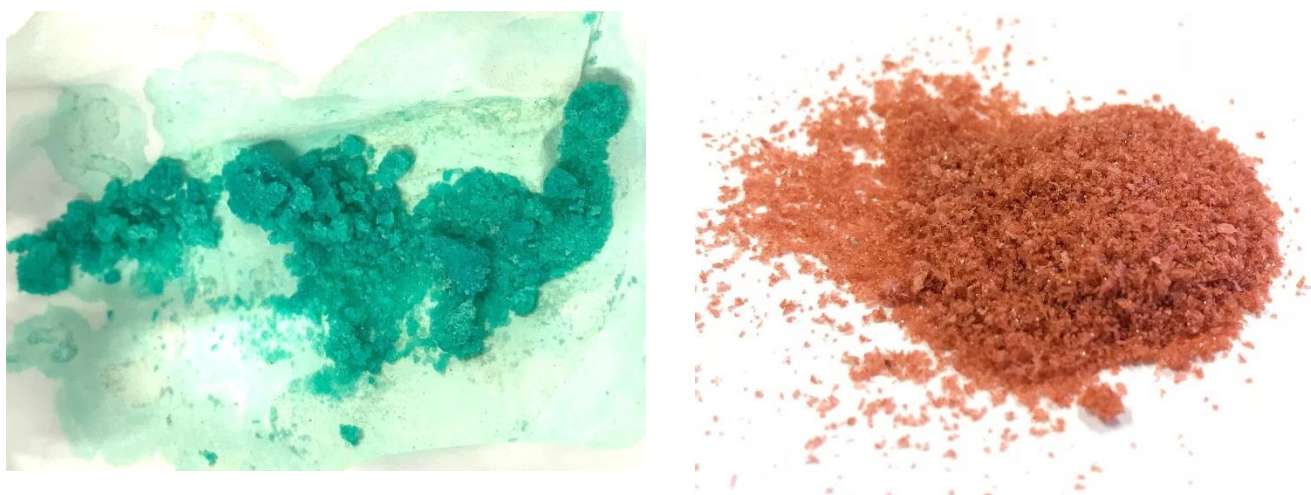
Scandium has the potential to be a valuable by-product for Ardea. Indeed, the selected flowsheet allows for production from low levels without impinging upon cobalt and nickel production. However, the emerging scandium market is an immature one, albeit with strong potential.

Should the Company decide to invest, a modular scandium circuit would be constructed that could be switched on or off as required. Such a system would provide the Company the flexibility to take advantage of fluctuating scandium prices. With the proposed flowsheet capable of recovering of scandium with ore feed concentrations as low as 40 g/t, such a scandium circuit could provide a potentially lucrative by-product revenue stream.

Consideration of a scandium circuit is a part of the Pre-Feasibility Study.

### Completion of bench-scale testwork

Bench-scale testwork for the PFS is complete, with production of cobalt sulphate and nickel sulphate (Figure 5 below) successfully achieved using the selected flowsheet. Final analysis of these products is underway, with the results to be part of the PFS.



*Figure 5 – Nickel sulphate (left) and cobalt sulphate (right) produced from Goongarrie South run-of-mine test material.*

### Tenement applications to focus exploration and mining

The Company has applied for several tenements located between the Goongarrie and Siberia resource tenure (Figure 6). With the focus to be on the Goongarrie Nickel-Cobalt Project, potentially for several decades, the Company has taken the opportunity to secure and maximise the potential of adjacent ground. Applications for Exploration and Miscellaneous licences (water extraction) were submitted.

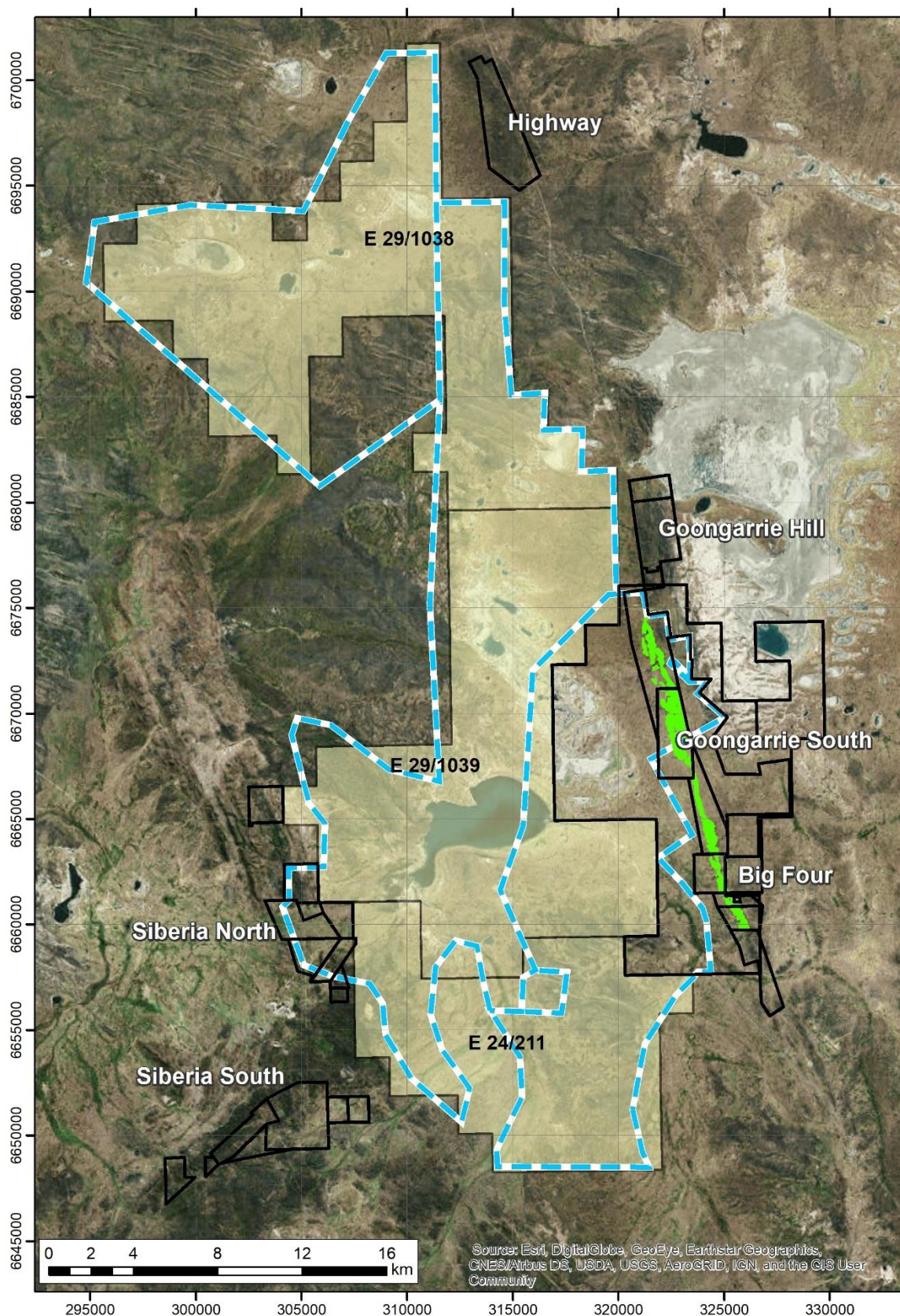


Figure 6 – New tenement applications between Goongarrie and Black Range in the east, and Siberia North in the west. Black-outlined tenements are existing licences and application. Dark grey-outlined solid tenements are new exploration licence applications. Blue-dashed irregular tenements are Miscellaneous Licence applications for water extraction. The Goongarrie South and Big Four resource outlines are shown in green for reference.

## Extensive, continuous scandium mineralisation at Goongarrie Nickel-Cobalt Project

During the quarter, extensive scandium mineralisation was discovered at Goongarrie South. The assay results were from analyses on stored laboratory pulps (from historic drill programs) as scandium was not assayed historically.

There are two distinct lines of mineralisation that each extend over many kilometres, coincident with extensive, strong cobalt and nickel mineralisation:

- The Pamela Jean / Patricia Anne line **extends for over 3 km, and is open to the north**
- The Elsie Tynan line **is over 2.5 km long** and is open to the south towards the northern end of Big Four.

Most of the thickest and highest-grade scandium results are located on the Pamela Jean / Patricia Ann line in the east. Grades are generally lower but thicknesses more even on the Elsie Tynan line in the southwest.

Scandium mineralisation is evident in some holes from surface. Downhole, the scandium mineralisation either sits above the cobalt and nickel mineralisation or overlaps its upper portions. The deeper parts of the cobalt-nickel mineralised zone usually contain lower scandium values.

A series of significant intercepts are defined from the new Ardea drilling including 8.6 m at 147.7 g/t scandium from 12 m in GSDD0004, and 35 m at 96.1 g/t scandium from 19 m in historic hole GSRC0334.

A scandium resource will be constructed from this dataset and will include assay results from current in-fill drill programs.

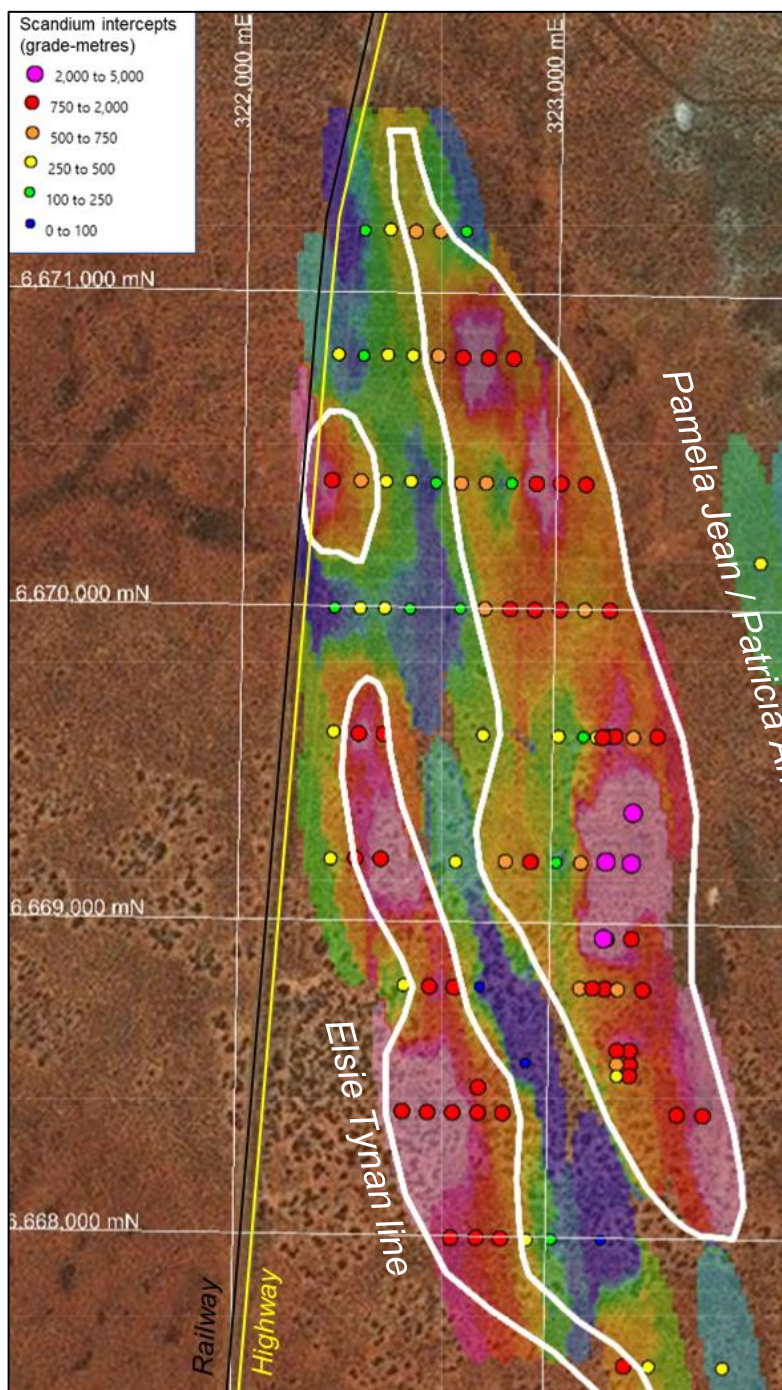


Figure 7 – Distribution of scandium mineralisation at Goongarrie South. 1 km grid. Values calculated are a metre-grade plot, showing the sum of thickness by grade for all contiguous scandium occurrences in excess of 25 g/t Sc (>2m interval, maximum 4m interval waste). Such plots provide a visual means of defining metal abundance distributions. The white outlines effectively define the extent of scandium mineralisation of interest where values exceed a nominal 500gm/t (equivalent to 10m @ 50g/t Sc, or 5m @ 100g/t Sc).

## Definitive Feasibility Study (DFS) underway

The Board has approved a program of drilling for the DFS. Work is now underway for the Goongarrie Nickel Cobalt Project, with RC drilling current and diamond and sonic drilling imminent.

### RC drilling program

An extensive Reverse Circulation (RC) drill program commenced in late November. The program is targeted to deliver high-resolution data to all areas within the mining schedule with the ultimate goal of defining highly accurate reserves for mining. The mining schedule defines a series of optimised pits over a 15 km strike length from Goongarrie South and into Big Four to the south. These will be fully defined in the PFS document. The drill program comprises a series of phases:

1. Initial infill of historic drilling to achieve a density of 40mE x 80mN. A total of 96 drillholes are defined for over 3,700m of drilling. Upon completion, data will be appraised for continuity of run-of-mine grades and thicknesses.
2. Second phase infill of intervening lines, where required, to bring drill density down to 40mE x 40mN. For this, a total of 199 drillholes are defined for over 7,600m of drilling. Receipt of all results will be followed by a comprehensive assessment of mineralisation continuity and distributions. It is expected that, for much of the deposit, this density of drilling will be sufficient.
3. Where necessary, a third phase infill is planned. It is expected that discrete areas of high resolution 20mE x 40mN drilling will be individually targeted to provide data as required for final starter pit design. However, a full plan has been defined that would total 796 drillholes for over 31,000m of drilling. It is likely that only a small proportion of these will be required.

All Programs of Works (PoWs) have been approved by the government regulatory authority for phases 1 and 2. Drill pads for all of phase 1 are cleared and are ready for drilling.

The first results from Phase 1 are being received. Much of this drilling is from the Elsie Tynan area of Goongarrie South, adjacent to the proposed plant site, and from the Patricia Anne area, in the north of Goongarrie South where high-grade cobalt and nickel mineralisation is very near to surface. First-pass comparison of adjacent holes suggests that there is good continuity of run-of-mine grade material being intercepted. Results will be released shortly once QAQC is completed.

### Diamond and sonic drilling

A diamond drill rig has arrived on site and is expected to commence drilling shortly.

Large diameter PQ triple-tubed diamond drilling and sonic drilling are being undertaken to maximise retrieval of soft, high-grade mineralisation. There are several important aims for this program:

1. To verify existing and forthcoming RC drillholes through twinning.
2. To provide material to produce marketable samples of cobalt sulphate and nickel sulphate from a pilot plant as the DFS progresses.
3. To provide an areally extensive and consistent sampling of the proposed pits at regular intervals to ensure representivity of all results.

As with the RC program, the diamond and sonic drilling program is targeted according to the pit designs proposed for the PFS, split between Goongarrie South and Big Four areas. A total of 45 core holes are planned for 2,160m of drilling.

At Goongarrie South, there are 26 drillholes planned for 1292m of drilling. This is split between 16 high priority holes (859m) which test inside or very close to the proposed pit designs and lower-priority holes

which twin mineralised drill holes between the pit designs. Ten of the diamond holes are planned to twin new RC drillholes.

At Big Four, a total of 19 diamond twin drill holes are planned for a total of 868m of drilling. This comprises 14 high priority holes (660m) and 5 low priority holes (208m). Some of the higher priority holes twin mineralised RC holes where there appears to be good potential for additional pits. Nine of the diamond holes are planned to twin new RC holes.

## Black Range, KNP Cobalt Zone

Cobalt-nickel mineralisation at Black Range is nearly continuous over around 4 km of the drilled strike using a 0.5 % nickel grade shell. Recent remodelling of the Black Range resource using a nickel cut-off of 0.5% Ni has resulted in a Total Mineral Resource for Black Range of **19.2 Mt at 0.68 % nickel and 0.09 % cobalt**, comprising the following:

*Table 2– Summary of mineral resources for Black Range cobalt-nickel deposit on the mining lease M24/757. This represents the eastern portion of the deposit, with sparse drilling further westward generally not suitable at present for modelling / resource estimation or JORC resource reporting. Three deposits are modelled here, Black Range cobalt-nickel deposit, Black Range scandium deposit, and Black Range PGM deposit. Note that there is spatial overlap in the vertical and horizontal planes (e.g. Figures 2 and 3), so **these resources are not additive**. All figures are appropriately rounded to reflect the degree of certainty.*

| JORC Category                            | Cutoff         | Tonnage<br>Mt | Grades      |             |        |             |             |             | Contained metal |               |         |            |               |               |
|------------------------------------------|----------------|---------------|-------------|-------------|--------|-------------|-------------|-------------|-----------------|---------------|---------|------------|---------------|---------------|
|                                          |                |               | Ni (%)      | Co (%)      | Mn (%) | Sc (g/t)    | Pt (g/t)    | Pd (g/t)    | Ni (t)          | Co (t)        | Mn (t)  | Sc (t)     | Pt (oz)       | Pd (oz)       |
| <i>Black Range cobalt-nickel deposit</i> |                |               |             |             |        |             |             |             |                 |               |         |            |               |               |
| Indicated                                | 0.5% Ni        | 9.33          | 0.67        | 0.09        | 0.49   | 33.8        | 0.09        | 0.13        | 62,400          | 8,200         | 46,000  | 310        | 27,600        | 39,000        |
| Inferred                                 | 0.5% Ni        | 9.89          | 0.69        | 0.10        | 0.61   | 33.0        | 0.09        | 0.13        | 68,300          | 9,600         | 60,000  | 320        | 28,600        | 39,500        |
| <b>Total</b>                             | <b>0.5% Ni</b> | <b>19.22</b>  | <b>0.68</b> | <b>0.09</b> | 0.55   | 33.4        | 0.09        | 0.13        | <b>130,700</b>  | <b>17,800</b> | 106,000 | 630        | 56,200        | 78,500        |
| <i>Black Range scandium deposit</i>      |                |               |             |             |        |             |             |             |                 |               |         |            |               |               |
| Inferred                                 | 50g/t Sc       | <b>8.70</b>   | 0.39        | 0.05        |        | <b>65.6</b> | 0.20        | 0.20        | 33,700          | 4,000         | -       | <b>570</b> | 56,500        | 56,200        |
| <i>Black Range PGM deposit</i>           |                |               |             |             |        |             |             |             |                 |               |         |            |               |               |
| Inferred                                 | 0.25g/t Pt     | <b>6.55</b>   | 0.23        | 0.02        |        | 39.3        | <b>0.33</b> | <b>0.21</b> | 14,900          | 1,300         | -       | 250        | <b>70,300</b> | <b>44,000</b> |

### A spatially-limited initial scandium resource at Black Range

The zones with elevated scandium concentration at Black Range are situated spatially above and within the uppermost parts of the cobalt and nickel resource. As such, scandium-bearing material will be mined during the mining of the cobalt and nickel mineralisation.

Presently, the scandium resource is limited to the infill RC drill holes drilled by Ardea as a part of a program of cobalt and nickel resource definition in April 2017. Drilling was conducted over a strike length of 1,200 metres. The drilling has revealed an initial scandium resource area which is expected will be expanded through collection of further drill data.

The identified scandium mineralised zone is contained within the footprint of the 19.2 Mt of 0.09 % cobalt and 0.68 % nickel resource at Black Range. An inferred resource has been estimated at **8.70 Mt at 65.6 g/t scandium** using a 50 g/t scandium lower cut-off. (approximate total contained scandium metal content of 570,000 kg). Part of this resource is included in the cobalt-nickel resource.

## An initial PGM resource at Black Range

PGM data from Black Range is historically recorded for the 6 km strike length of the layered mafic intrusive complex. Presently a Pt/Pd resource is located on the easternmost mining lease M24/757 only, occurring discontinuously over a strike length of around 3 km. Ardea has applied for a new mining lease to the west and southwest of the new resource and will seek to expand the cobalt, nickel, scandium and PGM resources in the new licence upon granting through additional drilling to improve drill hole density.

Within the footprint of the 19.2 Mt of 0.09 % cobalt and 0.68 % nickel resource at Black Range, which is entirely on the M24/757 lease, there is an estimated inferred PGM resource of **6.55 Mt at 0.54 g/t PGMs (0.33 g/t platinum and 0.21 g/t palladium)** using a cut-off of 0.25 g/t platinum. As with the scandium resource, the PGM resource falls within the footprint of the cobalt-nickel resource and future likely cobalt-nickel open pit area.

## Lewis Ponds zinc-gold-silver-gold-copper deposit, NSW

### Lewis Ponds geology and resource upgrade

Relogging and resampling of the historic drill core is nearing completion. With the Company's drilling earlier in the year on 200 m spaced sections, relogging initially focused on all available drill core on each of those sections. It has since progressed to the intervening 100 m-spaced sections. This relogging, when combined with historical data and new assay data will assist in defining the distribution of mineralisation, developing the Company's models, and with targeting of the drill holes in forthcoming drill programs.

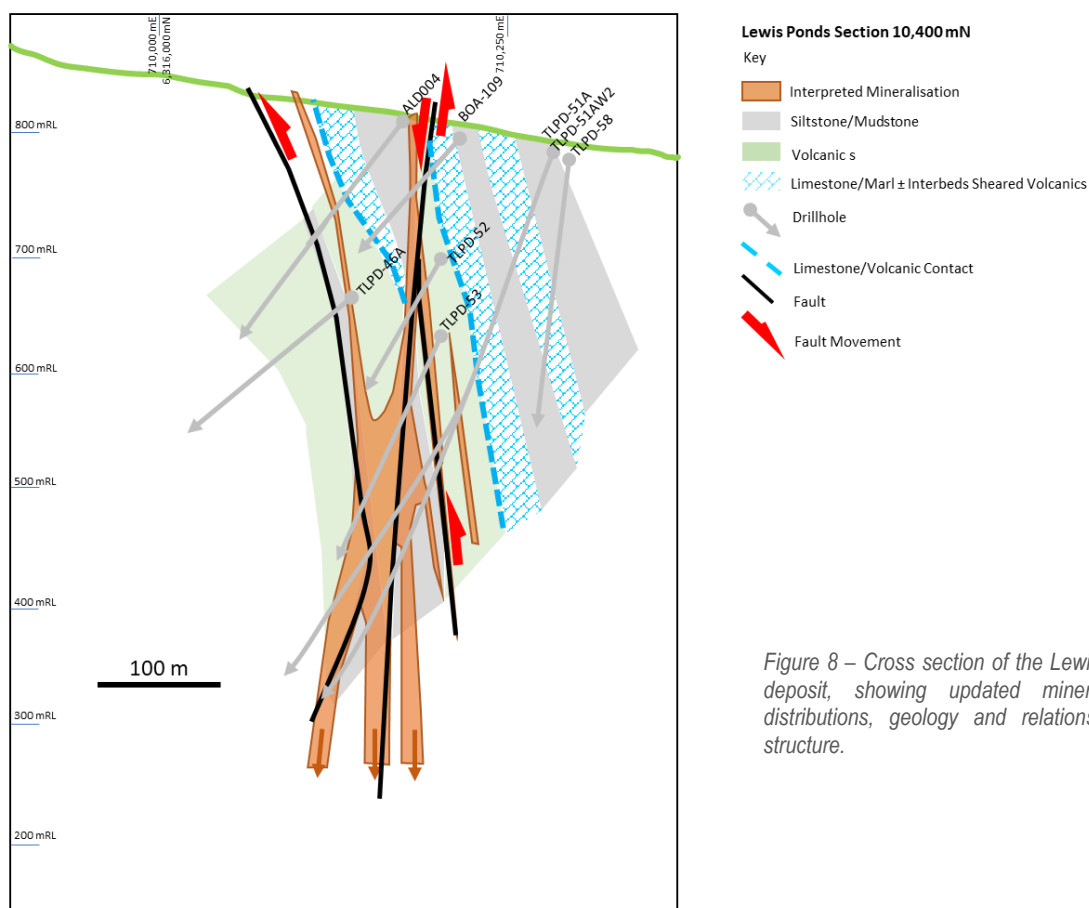


Figure 8 – Cross section of the Lewis Ponds deposit, showing updated mineralisation distributions, geology and relationships to structure.

Core preservation in the historic drill holes has been particularly poor in many cases, with tracts of drill core missing from some holes. However, it is now clear that historic geological models are no longer applicable. Rather, thrust fault dominated sheets seem to define overall lithological distributions and also, more importantly, the thrust faults bounding these sheets have provided conduits along which the mineralising fluids have concentrated gold, silver, zinc, lead, and copper.

Metallurgical testwork is nearing completion, with a zinc concentrate and a lead-copper-silver-gold concentrate produced at bench scale.

Results will be published upon completion of the current upgrade program.

## **Mount Zephyr and Darlot East gold projects, Eastern Goldfields, WA**

Work is presently underway to define exploration programs at Mount Zephyr and Darlot East in the northeastern areas of the Eastern Goldfields Province.

High resolution geophysical data exists for most of the Mount Zephyr area but is required in the north and at Darlot East, further to the north again. Detailed geological re-interpretation of geophysical data is well-advanced. This program is defining gold and nickel sulphide targets not previously identified throughout the Mount Zephyr greenstone belt and along the highly prospective Celia Lineament in granite and greenstone fragments at Darlot East. Quotes are currently being sought to implement 100m line-spaced aeromagnetic surveys, and to undertake ground-based 1km to 500m spaced gravity and soil geochemical surveys over the projects. These datasets will be used in conjunction with other historic datasets to define high-precision exploration programs over the for gold and base metal sulphide deposits.

## **Ophir gold project, Lachlan Fold Belt, NSW**

Statutory clearance has been received to implement exploration programs at the epicentre of Australia's oldest defined goldfield, Ophir, to the immediate north of Lewis Ponds. Soil, rock chip, and stable isotope sampling programs are being planned with a view to defining an initial targeted diamond drilling program.

Ardea is intending to trial a smart, little utilised stable isotope technique that aims to define the footprint and the focus of a mineralising system. This technique, used appropriately, defines areas of significant mineralising fluid flux, and historically was used to define extensions to the Mount Charlotte orebody at Kalgoorlie. Tailored to individual areas, it can significantly reduce the amount of drilling required to zero in on gold and other mineralisation within and around fertile vein and breccia systems.

## **Other gold and base metal projects, Lachlan Fold Belt, NSW**

Work is underway to advance the Wiseman's Creek epithermal gold and base metals project. Reconnaissance sampling last year showed significant anomalies in the subsurface. Programs are currently being developed to define mineralisation distributions in an area of very limited outcrop and extensive vegetation.

Similarly, assessment is underway at the Mount Aubrey porphyry gold-base metals project. Interrogation of available historic drill core and exploration data aims to extend upon BHP's historic (rehabilitated) open pit gold mining operations within the project area.

## Operations

As the Company is expanding its operations and accelerating work on its projects, additional staff are required. A number of key technical positions have been filled that will oversee the feasibility studies and exploration, along with new roles in Kalgoorlie.

To fully realise the potential of the PFS, Sarah Mitchell was appointed as General Manager – Technical Services. She has overseen significant expansion of the breadth of scope and detail, so that completion of the PFS will set the Company some way towards completion of the DFS.

A number of other appointments have been made:

- Process Engineer (commenced January), reporting to the General Manager – Technical Services, to assist with completion of the PFS and to directly oversee testwork programs during the DFS.
- Exploration Manager (commencing February), to oversee the Company's drilling programs at the Goongarrie Nickel Cobalt Project, broader programs throughout the KNP, gold exploration at Mt Zephyr, Taurus, and Darlot East, and gold and base metal programs at Lewis Ponds and throughout NSW.
- Resource Geologist (commenced December), reporting to the Managing Director, to define the Company's resources and reserves at the Goongarrie Nickel Cobalt Project and all other projects as they advance.
- Geologist, Eastern Goldfields (commenced December), reporting to the Senior Geologist – Eastern Goldfields, to assist with and oversee drilling programs at Goongarrie and throughout the KNP.
- Business Development consultant (commencing February), reporting to the Managing Director, to assist with and advance high-level relationships between potential partners in and off-takers from the Goongarrie Nickel Cobalt Project in particular and the development of the Company in general.
- Senior Field Manager – Eastern Goldfields (commenced November), reporting to the Senior Geologist – Eastern Goldfields, to coordinate and implement field programs, and to implement safety procedures and initiatives.
- Human Resources Consultant (commenced October), reporting to the Managing Director, to assist with recruitment and refinement and implementation of workplace policies and procedures throughout the Company.

The Company will also seek to employ several Kalgoorlie-based field geologists and field assistants in the near future to implement the planned drilling and exploration programs.

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

**Ardea Resources:**

Dr Matt Painter

Managing Director, Ardea Resources Limited

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 June 2014, October 2016, 2016 Heron Resources Annual Report and 6 January 2017;
2. KNP Cobalt Zone Study on 6 January 2017

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 will be subject to new work programs following the listing of Ardea, notably drilling, metallurgy and JORC Code 2012 resource estimation as applicable.

The information in this report that relates to KNP Exploration Results is based on information originally compiled by previous and current full time employees of Heron Resources Limited and after February 2017 employees of Ardea Resource Limited. The Exploration Results 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 and a director 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.

### **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 ability to complete the Ardea spin-out, 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 complete the Ardea spin-out on the basis of the proposed terms and timing or at all, 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 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

### Name of entity

Ardea Resources Limited

### ABN

30 614 289 342

### Quarter ended ("current quarter")

31 December 2017

| Consolidated statement of cash flows                      | Current quarter<br>\$A'000 | Year to date<br>(6 months)<br>\$A'000 |
|-----------------------------------------------------------|----------------------------|---------------------------------------|
| <b>1. Cash flows from operating activities</b>            |                            |                                       |
| 1.1 Receipts from customers                               |                            |                                       |
| 1.2 Payments for                                          |                            |                                       |
| (a) exploration & evaluation                              | (100)                      | (959)                                 |
| (b) development                                           | (1,441)                    | (1,441)                               |
| (c) production                                            | -                          | -                                     |
| (d) staff costs                                           | (89)                       | (192)                                 |
| (e) administration and corporate costs                    | (251)                      | (359)                                 |
| 1.3 Dividends received (see note 3)                       | -                          | -                                     |
| 1.4 Interest received                                     | 13                         | 19                                    |
| 1.5 Interest and other costs of finance paid              | -                          | -                                     |
| 1.6 Income taxes paid                                     | -                          | -                                     |
| 1.7 Research and development refunds                      | -                          | -                                     |
| 1.8 Other                                                 | -                          | -                                     |
| <b>1.9 Net cash from / (used in) operating activities</b> | <b>(1,868)</b>             | <b>(2,932)</b>                        |

|                                                |       |       |
|------------------------------------------------|-------|-------|
| <b>2. Cash flows from investing activities</b> |       |       |
| 2.1 Payments to acquire:                       |       |       |
| (a) property, plant and equipment              | (71)  | (112) |
| (b) tenements (see item 10)                    | (237) | (237) |
| (c) investments                                | -     | -     |
| (d) other non-current assets                   | -     | -     |

| Consolidated statement of cash flows |                                                       | Current quarter<br>\$A'000 | Year to date<br>(6 months)<br>\$A'000 |
|--------------------------------------|-------------------------------------------------------|----------------------------|---------------------------------------|
| 2.2                                  | Proceeds from the disposal of:                        |                            |                                       |
|                                      | (a) property, plant and equipment                     | -                          | -                                     |
|                                      | (b) tenements (see item 10)                           | -                          | 200                                   |
|                                      | (c) investments                                       | -                          | -                                     |
|                                      | (d) 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)                   | -                          | -                                     |
| <b>2.6</b>                           | <b>Net cash from / (used in) investing activities</b> | <b>(308)</b>               | <b>(149)</b>                          |

|             |                                                                             |              |               |
|-------------|-----------------------------------------------------------------------------|--------------|---------------|
| <b>3.</b>   | <b>Cash flows from financing activities</b>                                 |              |               |
| 3.1         | Proceeds from issues of shares                                              | 218          | 9,976         |
| 3.2         | Proceeds from issue of convertible notes                                    | -            | -             |
| 3.3         | Proceeds from exercise of share options                                     | 5,128        | 5,271         |
| 3.4         | Transaction costs related to issues of shares, convertible notes or options | (48)         | (318)         |
| 3.5         | Proceeds from borrowings                                                    | (218)        | -             |
| 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>5,080</b> | <b>14,929</b> |

|            |                                                                              |               |               |
|------------|------------------------------------------------------------------------------|---------------|---------------|
| <b>4.</b>  | <b>Net increase / (decrease) in cash and cash equivalents for the period</b> |               |               |
| 4.1        | Cash and cash equivalents at beginning of period                             | 12,006        | 3,062         |
| 4.2        | Net cash from / (used in) operating activities (item 1.9 above)              | (1,868)       | (2,932)       |
| 4.3        | Net cash from / (used in) investing activities (item 2.6 above)              | (308)         | (149)         |
| 4.4        | Net cash from / (used in) financing activities (item 3.10 above)             | 5,080         | 14,929        |
| 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>14,910</b> | <b>14,910</b> |

| 5.  | <b>Reconciliation of cash and cash equivalents</b><br>at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts | Current quarter<br>\$A'000 | Previous quarter<br>\$A'000 |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|
| 5.1 | Bank balances                                                                                                                                                               | 4,910                      | 12,006                      |
| 5.2 | Call deposits                                                                                                                                                               | 10,000                     | -                           |
| 5.3 | Bank overdrafts                                                                                                                                                             | -                          | -                           |
| 5.4 | Other (provide details)                                                                                                                                                     | -                          | -                           |
| 5.5 | <b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>                                                                                            | <b>14,910</b>              | <b>12,006</b>               |

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

| Current quarter<br>\$A'000 |
|----------------------------|
| 207                        |
| -                          |

Salaries, Directors fees and consulting fees paid to Directors - \$165,007  
Payment for Kalgoorlie office to a Director related entity for the quarter - \$17,043  
Payment for HR Services to a Director related entity for the quarter - \$25,385

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

| Current quarter<br>\$A'000 |
|----------------------------|
| -                          |
| -                          |

| <b>8. Financing facilities available</b><br><i>Add notes as necessary for an understanding of the position</i>                                                                                                                                                                             | <b>Total facility amount<br/>at quarter end<br/>\$A'000</b> | <b>Amount drawn at<br/>quarter end<br/>\$A'000</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------|
| 8.1 Loan facilities                                                                                                                                                                                                                                                                        | -                                                           | -                                                  |
| 8.2 Credit standby arrangements                                                                                                                                                                                                                                                            | -                                                           | -                                                  |
| 8.3 Other (please specify)                                                                                                                                                                                                                                                                 | -                                                           | -                                                  |
| 8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well. |                                                             |                                                    |

|  |
|--|
|  |
|--|

| <b>9. Estimated cash outflows for next quarter</b> | <b>\$A'000</b> |
|----------------------------------------------------|----------------|
| 9.1 Exploration and evaluation                     | (600)          |
| 9.2 Development                                    | (3,100)        |
| 9.3 Production                                     | -              |
| 9.4 Staff costs                                    | (175)          |
| 9.5 Administration and corporate costs             | (180)          |
| 9.6 Other (provide details if material)            | -              |
| <b>9.7 Total estimated cash outflows</b>           | <b>(4,055)</b> |

| <b>10. Changes in tenements (items 2.1(b) and 2.2(b) above)</b>                            | <b>Tenement reference and location</b> | <b>Nature of interest</b> | <b>Interest at beginning of quarter</b> | <b>Interest at end of quarter</b> |
|--------------------------------------------------------------------------------------------|----------------------------------------|---------------------------|-----------------------------------------|-----------------------------------|
| 10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced | See Attached Schedule                  |                           |                                         |                                   |
| 10.2 Interests in mining tenements and petroleum tenements acquired or increased           | See Attached Schedule                  |                           |                                         |                                   |

### **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.



Sam Middlemas  
Company Secretary

31 January 2018

### **Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly 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 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.

## 10.1

### Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced

| Ardea NSW Tenements |          |                    |                                        |                                  |
|---------------------|----------|--------------------|----------------------------------------|----------------------------------|
| Tenement            | Location | Nature of Interest | Ardea Interest at beginning of quarter | Ardea Interest at end of quarter |
| 0                   | 0        | 0                  | 0                                      | 0                                |

| Ardea WA Tenements |          |                    |                                        |                                  |
|--------------------|----------|--------------------|----------------------------------------|----------------------------------|
| Tenement           | Location | Nature of Interest | Ardea Interest at beginning of quarter | Ardea Interest at end of quarter |
| 0                  | 0        | 0                  | 0                                      | 0                                |

## 10.2

### Interests in mining tenements and petroleum tenements acquired or increased

| Ardea NSW Tenements |          |                              |                                        |                                  |
|---------------------|----------|------------------------------|----------------------------------------|----------------------------------|
| Tenement            | Location | Nature of Interest (current) | Ardea Interest at beginning of quarter | Ardea Interest at end of quarter |
| 0                   | 0        | 0                            | 0                                      | 0                                |

| Ardea WA Tenements |                        |                              |                                            |                                      |
|--------------------|------------------------|------------------------------|--------------------------------------------|--------------------------------------|
| Tenement           | Location               | Nature of Interest (current) | Ardea Interest at beginning of quarter (%) | Ardea Interest at end of quarter (%) |
| E29/01028          | 67km NNW of Kalgoorlie | Pending                      | 0                                          | 100                                  |
| E31/01169          | 129km NE of Kalgoorlie | Pending                      | 0                                          | 100                                  |
| M29/00426          | 80km NNW of Kalgoorlie | Pending                      | 0                                          | 100                                  |
| M31/00488          | 113km NE of Kalgoorlie | Pending                      | 0                                          | 100                                  |

### Ardea Resources Ltd Tenement Schedule (NSW) as at 31<sup>st</sup> December 2017.

| Ardea NSW Tenements |                       |                    |        |      |          |                        |                    |        |      |
|---------------------|-----------------------|--------------------|--------|------|----------|------------------------|--------------------|--------|------|
| Tenement            | Location              | Ardea Interest (%) | Status | Note | Tenement | Location               | Ardea Interest (%) | Status | Note |
| EL5583              | 15km E of Orange      | 100                | Live   | 5    | EL8555   | 5km N of Forbes        | 100                | Live   |      |
| EL8061              | Gundagai              | 100                | Live   |      | EL8556   | 19km NE of Orange      | 100                | Live   |      |
| EL8323              | 10km NE of Orange     | 100                | Live   |      | EL8557   | 62km W of West Wyalong | 100                | Live   |      |
| EL8532              | 30km NE of Parkes     | 100                | Live   |      | EL8580   | 10km N of Forbes       | 100                | Live   |      |
| EL8538              | 22km SW of Wellington | 100                | Live   |      | EL8586   | 5km N of Gundagai      | 100                | Live   |      |
| EL8554              | 27km SE of Bathurst   | 100                | Live   |      | ML0739   | 10km N of Forbes       | 100                | Live   |      |

### Ardea Resources Ltd Tenement Schedule (WA) as at 31<sup>st</sup> December 2017.

| Ardea WA Tenements* |                         |                      |         |      |           |                         |                     |         |      |
|---------------------|-------------------------|----------------------|---------|------|-----------|-------------------------|---------------------|---------|------|
| Tenement            | Location                | Ardea Interest (%)   | Status  | Note | Tenement  | Location                | Ardea Interest (%)  | Status  | Note |
| E24/00203           | 78km NW of Kalgoorlie   | 100% non gold rights | Pending | 6    | M25/00187 | 40km E of Kalgoorlie    | 100                 | Live    |      |
| E27/00524           | 67km NE of Kalgoorlie   | 100                  | Live    |      | M27/00395 | 68km NE of Kalgoorlie   | 100                 | Live    |      |
| E28/01224           | 63km NE of Kalgoorlie   | 100                  | Live    |      | M28/00199 | 65km NE of Kalgoorlie   | 100                 | Live    |      |
| E29/00889           | 78km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    | M28/00201 | 65km NE of Kalgoorlie   | 100                 | Live    |      |
| E29/00934           | 67km NNW of Kalgoorlie  | 100                  | Pending |      | M28/00205 | 66km NE of Kalgoorlie   | 100                 | Live    |      |
| E29/00941           | 140km NNW of Kalgoorlie | 100                  | Live    |      | M29/00167 | 87km NNW of Kalgoorlie  | 100                 | Live    |      |
| E29/01006           | 83 km E of Leonora      | 100                  | Pending |      | M29/00202 | 86km NNW of Kalgoorlie  | 100                 | Live    |      |
| E29/01028           | 67km NNW of Kalgoorlie  | 100                  | Pending |      | M29/00426 | 80km NNW of Kalgoorlie  | 100                 | Pending |      |
| E31/01092           | 140km NNE of Kalgoorlie | 100% non gem rights  | Pending | 7    | M29/00214 | 100km NNW of Kalgoorlie | 100                 | Live    |      |
| E31/01169           | 129km NE of Kalgoorlie  | 100                  | Pending |      | M29/00272 | 77km NNW of Kalgoorlie  | 100                 | Live    |      |
| E37/01271           | 60km NW of Laverton     | 100                  | Pending |      | M29/00278 | 74km NNW of Kalgoorlie  | 100                 | Live    |      |
| E37/01272           | 100km N of Leonora      | 100                  | Live    |      | M29/00423 | 76km NNW of Kalgoorlie  | 100                 | Live    |      |
| E37/01273           | 100km N of Leonora      | 100                  | Live    |      | M29/00424 | 86km NNW of Kalgoorlie  | 100                 | Pending |      |
| E37/01274           | 75km NW of Laverton     | 100                  | Pending |      | M29/00426 | 80km NNW of Kalgoorlie  | 100                 | Pending |      |
| E39/01706           | 70km NW of Leonora      | 100                  | Live    |      | M31/00475 | 129km NE of Kalgoorlie  | 100% non gem rights | Live    | 4,7  |
| E39/01757           | 70km NW of Leonora      | 100                  | Live    |      | M31/00477 | 129km NE of Kalgoorlie  | 100% non gem rights | Live    | 4,7  |
| E39/01854           | 70km NW of Leonora      | 100                  | Pending |      | M31/00479 | 129km NE of Kalgoorlie  | 100% non gem rights | Live    | 4,7  |

**Ardea Resources Ltd Tenement Schedule (WA) as at 31<sup>st</sup> December 2017.**

| Ardea WA Tenements |                        |                      |         |      |           |                         |                      |         |      |
|--------------------|------------------------|----------------------|---------|------|-----------|-------------------------|----------------------|---------|------|
| Tenement           | Location               | Ardea Interest (%)   | Status  | Note | Tenement  | Location                | Ardea Interest (%)   | Status  | Note |
| E39/01954          | 170km NE of Kalgoorlie | 100% non gem rights  | Pending | 8    | M31/00483 | 146km NNE of Kalgoorlie | 100% non gem rights  | Live    | 4,7  |
| E39/01985          | 60km NW of Laverton    | 100                  | Pending |      | M31/00488 | 113km NE of Kalgoorlie  | 100                  | Pending |      |
| E63/01827          | 10km W of Norseman     | 100                  | Live    |      | P24/04395 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| E63/01828          | 60km ENE of Norseman   | 100                  | Live    |      | P24/04396 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| E63/01856          | 87km NE of Norseman    | 100                  | Pending |      | P24/04400 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| E63/01857          | 80km NE of Norseman    | 100                  | Pending |      | P24/04401 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| E70/04804          | 18km W of Manjimup     | 100                  | Pending |      | P24/04402 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| M24/00541          | 67km NNW of Kalgoorlie | 100                  | Live    |      | P24/04403 | 70km NW of Kalgoorlie   | 100% non gold rights | Live    | 6    |
| M24/00634          | 78km NW of Kalgoorlie  | 100% non gold rights | Live    | 1,6  | P24/05235 | 70km NW of Kalgoorlie   | 100                  | Pending |      |
| M24/00660          | 75km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P24/05236 | 70km NW of Kalgoorlie   | 100                  | Pending |      |
| M24/00663          | 75km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02454 | 32km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00664          | 75km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02455 | 33km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00665          | 75km NW of Kalgoorlie  | 100% non gold rights | Live    | 2,6  | P25/02456 | 34km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00683          | 78km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02457 | 35km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00686          | 75km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02458 | 32km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00731          | 70km NNW of Kalgoorlie | 100                  | Live    | 3    | P25/02459 | 33km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00732          | 70km NNW of Kalgoorlie | 100                  | Live    | 3    | P25/02460 | 34km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00744          | 75km NNW of Kalgoorlie | 100                  | Live    |      | P25/02461 | 35km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00757          | 63km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02482 | 33km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00772          | 71km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P25/02483 | 33km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00778          | 70km NNW of Kalgoorlie | 100                  | Live    | 3    | P25/02484 | 34km E of Kalgoorlie    | 100                  | Pending |      |
| M24/00797          | 78km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P29/02265 | 90km NNW of Kalgoorlie  | 100                  | Pending |      |
| M24/00915          | 78km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P31/02038 | 113km NE of Kalgoorlie  | 100                  | Live    |      |
| M24/00916          | 78km NW of Kalgoorlie  | 100% non gold rights | Live    | 6    | P31/02039 | 113km NE of Kalgoorlie  | 100                  | Live    |      |
| M24/00973          | 66km NW of Kalgoorlie  | 100% non gold rights |         | 6    | P31/02040 | 113km NE of Kalgoorlie  | 100                  | Live    |      |
| M25/00151          | 38km E of Kalgoorlie   | 100                  | Live    |      |           |                         |                      |         |      |

\*Non-gold rights defined as non gold or silver.

| Notes: |                                                                                                                                                                                                   |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | Britannia Gold Ltd retained precious metal rights.                                                                                                                                                |
| 2.     | Impress Ventures Ltd has a 10% equity free-carried interest to a decision to mine.                                                                                                                |
| 3.     | Placer Dome Australia Limited (Norton Goldfields) retains certain gold rights.                                                                                                                    |
| 4.     | Heron previously entered a binding framework agreement with Ningbo Shanshan Co Ltd, Shanshan had the right to earn a 70% interest in the Yerilla Nickel-Cobalt Project. The JV ended in May 2011. |
| 5.     | Finder's fee to David Timm's on EL5583 sale transaction or production commencement (\$2M cap).                                                                                                    |
| 6.     | Eastern Goldfields retains gold-silver rights with Heron 10% royalty, Ardea retains all Ni-Co and non-precious metal rights including PGEs.                                                       |
| 7.     | Ausjade retains tenement ownership and gem mineral rights, Ardea retains Ni-Co and all non-gem mineral rights.                                                                                    |
| 8.     | Ausjade retains gem mineral rights, Ardea retains Ni-Co, all non-gem mineral rights and tenement ownership.                                                                                       |