

ASX & Media Release

10 February 2017

ASX Symbol

ARL

Ardea Resources Limited

1/7 Havelock St
West Perth WA 6005
PO Box 1433
West Perth WA 6872

Telephone

+61 8 6500 9200

Email

ardea@ardearesources.com.au

Website

www.ardearesources.com.au

Directors

Katina Law
Chair

Matt Painter
Managing Director

Ian Buchhorn
Non-Executive Director

Issued Capital

Shares
67,000,747

Unlisted options
12,310,022

ABN 30 614 289 342

Ardea Resources lists on the ASX

Exposure to the developed world's largest cobalt resource and a diversified portfolio of development and exploration assets

-
- Focused on developing globally important deposits in Australia.
 - The KNP, immediately north and east of Kalgoorlie, WA, is the **developed world's largest cobalt resource**.
 - Cobalt and nickel in the KNP Cobalt Zone will be the immediate focus of development efforts. Drilling will commence by March, with newsflow shortly thereafter.
 - Lewis Ponds, located immediately east of Orange, NSW, will be the focus of zinc, gold, silver, lead, and copper exploration.
 - A new bulk tonnage open pit model and exploration program at Lewis Ponds will aim to define a new deposit. Drilling to commence by early March, followed shortly by newsflow.
-

Ardea Resources Limited (ASX: ARL, "Ardea" or "the Company") commenced trading on the Australian Securities Exchange at 10am WST on 9 February 2017.

Plans are advanced for drilling at our flagship projects – the KNP Cobalt Zone, WA, and Lewis Ponds, NSW. Drilling at each of these projects is due to commence shortly.

1 KNP Cobalt Zone

There is a renewed global interest in cobalt owing to its prominent use in lithium ion batteries and associated technologies supporting renewable energy storage.

Ardea's Kalgoorlie Nickel Project (KNP) is a globally significant lateritic nickel resource that contains substantial concentrations of cobalt. Recent



Figure 1 – Outcrop of nickel-, cobalt-, and manganese-rich laterite at Goongarrie, KNP Cobalt Zone

recalculation of these resources with a focus on cobalt rather than nickel concentrations shows that the KNP is one of the world's largest cobalt resources, and certainly the largest in the developed world.

The global resource for the KNP is **805.3 Mt at 0.048 % cobalt and 0.70 % nickel**¹ which equates to over **386,000 t of contained cobalt metal**.

A cobalt-rich subset of the KNP, known as the KNP Cobalt Zone, contains a significant cobalt and nickel resource in its own right. The KNP Cobalt Zone contains **49.7 Mt at 0.12 % cobalt and 0.86 % nickel** (Table 1) for a total **contained cobalt metal of just under 60,000 t**. Our aim is to substantially increase upon this initial resource through exploration of known outlying cobalt occurrences and drill intercepts, and through reinterpretation of the resource based on cobalt cut-off grades rather than the current 0.5 % nickel cut-off.

Table 1 – KNP Cobalt Zone, Resource Statement from RMRC consulting group

Area	Prospect	Resource category	Cutoff (% Co)	Size (Mt)	Co (%)	Ni (%)
Goongarrie	Goongarrie South	Measured	0.08	3.4	0.14	1.19
		Indicated	0.08	11.2	0.11	0.92
		Inferred	0.08	1.4	0.11	0.76
	Big Four	Indicated	0.08	4.5	0.11	0.89
		Inferred	0.08	0.2	0.11	0.95
	Scotia	Inferred	0.08	2.9	0.14	0.88
<i>Goongarrie subtotal</i>				23.6	0.12	0.94
Siberia	Black Range	Inferred	0.50(Ni)	20.1	0.10	0.75
Yerilla	Aubils	Inferred	0.08	6.0	0.15	0.90
KNP TOTAL				49.7	0.12	0.86

¹ The breakdown for the full KNP resource categories is as follows:

Resource Category	Quantity (Mt)	Co (%)	Ni (%)
Measured	9.6	0.081	1.02
Indicated	244.0	0.052	0.75
<i>KNP Total Measured and Indicated</i>	<i>253.6</i>	<i>0.052</i>	<i>0.76</i>
Inferred	551.7	0.046	0.68
KNP Total Resources	805.3	0.048	0.70

Table 2 – Ardea Benchmarks, ASX-listed companies (+ Glencore) ranked by contained cobalt metal

	Company	Size (Mt)	Co (%)	Co metal (kt)	Project	Mineralisation style
1	Ardea Resources	805	0.05%	386.4	Kalgoorlie Nickel Project, WA	Laterite Ni-Co
2	Glencore	256	0.07%	179.4	Murrin Murrin WA	Laterite Ni-Co
3	CleanTeq	109	0.10%	114.0	Syerston, NSW	Laterite Ni-Co-Sc
4	GME	108	0.06%	65.1	NiWest Project, WA	Laterite Ni-Co
5	Ardea Resources	50	0.12%	59.6	KNP Cobalt Zone, WA	Laterite Co-Ni-Mn
6	Conico	32	0.12%	39.3	Mt Thirsty, WA	Laterite Ni-Co
7	Cobalt Blue	36	0.08%	30.0	Broken Hill, NSW	Co sulphide
8	Regal	4	0.72%	29.1	Kalongwe, DRC	Cu-Co sulphide
9	Havilah	18	0.10%	17.5	Mutooroo, NSW	Cu-Co sulphide
10	CuDeco	57	0.03%	16.7	Rocklands, Qld	Cu-Au-Co sulphide

Data sourced from SNL.com except for Murrin Murrin (Glencore 2014 Resources and Reserves Report)

Ardea plans to focus on the application of advanced metallurgical processes to optimise cobalt extraction and meet increasing cobalt demand from the booming vehicle electrification and energy storage sectors.

1.1 Ethically sourced cobalt for technology industries and green energy

Cobalt is a major component of most lithium ion batteries, which are used in smartphones, computers, electric and hybrid vehicles, and solar power storage systems. Cobalt prices have risen substantially over the last year (+70% year-on-year) to \$US38,500 per tonne (London Metal Exchange, 7 February 2017).

Securing a reliable and ethical source of cobalt is becoming challenging for many users. In January 2016, Amnesty International highlighted the extensive use of child labour in cobalt mining operations in the Democratic Republic of Congo (DRC)², the world's major supplier of cobalt. With presidential elections scheduled for next year in the DRC, the threat of political instability and interruptions to continuity of supply are also real.

Technology companies are looking to source cobalt from countries where ethical work practices are essential, particularly as these principled considerations become more acute as demand increases over time. The development of the KNP Cobalt Zone can provide a long-term stable supply of ethically sourced cobalt for our future technological and green energy needs.

1.2 Forthcoming work at the KNP Cobalt Zone

Drilling is scheduled to commence in March. Initially there will be two drill programs that will focus on defining cobalt-rich zones that are presently outside of, but which we hope to include into, the KNP Cobalt Zone. Around 80 reverse circulation (RC) drillholes are planned at Black Range and Kalpini that, if successful, will substantially expand the resources of the KNP Cobalt Zone.

Work has also commenced on a new pre-feasibility study (PFS) focusing on the KNP Cobalt Zone. The program will in part investigate recent metallurgical advances into various atmospheric leaching techniques that will substantially drop the cost of capital expenditure required to build a processing

² *Source: "This is what we die for: Human rights abuses in the Democratic Republic of the Congo power the global trade in cobalt." Amnesty International, January 2016 (AFR 62/3183/2016)

plant. Dedicated drilling will also be required to provide suitable samples. Ardea has appointed an expert metallurgist with extensive experience in lateritic nickel-cobalt deposits to oversee our metallurgical test programs for the PFS.

1.3 Chrysoprase opportunities are being assessed

Ardea has recognised increasing demand for one of Australia's signature gemstones, chrysoprase. Commonly referred to as 'Australian jade', chrysoprase is a rich green coloured semi-precious gemstone that, like opal, is located within cracks and crevices in weathered near-surface rocks. The chrysoprase has developed as part of the nickel laterite regime, so is genetically and spatially related to the nickel and cobalt mineralisation.



Figure 2 – As-mined chrysoprase from the KNP.

Profitable chrysoprase mining has been undertaken by small-scale tribute miners on the KNP mining licences for many years. We are presently assessing the viability of an industrial-scale mining operation to meet surging east-Asian demand.

Ardea is seeking a suitable partner with knowledge of the downstream jewellery industry with which to further pursue opportunities for the large-scale mining of chrysoprase.

2 Lewis Ponds

Ardea's recent reassessment of the Lewis Ponds deposit near Orange, NSW, has highlighted the potential for extensive late-stage gold mineralisation in addition to its base metal potential. Reconsideration of the Lewis Ponds deposit as a bulk tonnage gold, silver, and base metal mining operation is expected to result in broad mineralised intercepts and allow appraisal of the deposit in a manner akin to that used for the development of the successful mines of the region.



Figure 3 – Historic mine workings and plant locations at Lewis Ponds

2.1 Bulk tonnage open pit mining model

Exploration at Lewis Ponds has historically been based on a narrow high grade underground mining model, and has generated a mineral resource totalling **6.6 Mt at 1.5 g/t gold and 2.4 % zinc**³ estimated at a 3% ZnEq cut-off grade (refer Prospectus Table 3.2 for full description of resource status).

Our recent reassessment shows that Lewis Ponds mineralisation is dominantly a 20-50 metre wide stringer (shear vein) system with 2-10 metre thick bands of massive Zn-Pb-Ag-Au mineralisation. The implications for Lewis Ponds are:

- Drill intercepts are required to be bulked into broad lower grade intervals using a 1% ZnEq cut-off (approximately 0.5g/t AuEq, similar to nearby McPhillamys and other deposits).
- Open-pit bulk mining is more likely to be feasible, given the favourable Lewis Ponds strip ratios and consistent shallow high-grade mineralised occurrences.

From reviewing available drill core at site and archived core photographs, it is clear that extensive zones of sericite-pyrite alteration (potential gold mineralised host) have not been sampled. There is thus a requirement to cut and sample this core (assuming the individual core is still available), with the potential to establish “McPhillamys-style” mineralised systems.

³ The breakdown for the full Lewis Ponds resource categories is as follows:

Resource Category	Quantity(Mt)	Zn(%)	Cu(%)	Pb(%)	Au(g/t)	Ag(g/t)
Indicated						
Main Zone	5.82	2.1	0.1	1.1	1.5	59
Tom's Zone	0.54	5.5	0.3	3.8	1.7	172
<i>Total Indicated</i>	6.35	2.4	0.2	1.4	1.5	68
Inferred						
Main Zone	0.17	1.7	0.1	0.8	0.9	47
Tom's Zone	0.10	5.0	0.2	3.6	1.4	174
<i>Total Inferred</i>	0.27	3.0	0.1	1.9	1.1	96
Total Mineral Resource	6.62	2.4	0.2	1.4	1.5	69

2.2 Exploration target

In consideration of the broad mineralised intercepts over a strike length of 1.15 km, the initial Lewis Ponds Exploration Target is estimated at **15–25 Mt at 2.2–3.7 % ZnEq (1.2–2.0 g/t AuEq)⁴**.

The system is open north and south along strike within areas of historic workings and soil geochemical anomalism. Significantly, there are extensive runs of historic drill core with no assays at all or only base metal assays (i.e. no gold assays).

Commonly within the Lewis Ponds lode envelopes, the runs of non-assayed material correspond to core photography which clearly shows the core is altered and likely mineralised. These intervals are ascribed nil grade within intercept calculations, meaning the Exploration Target grade is likely underestimated.

2.3 Forthcoming work at Lewis Ponds

Ardea will commence diamond drilling in March at Lewis Ponds. The initial program will comprise four diamond drill holes that will be systematically drilled on separate established section lines spaced at 200 m line intervals. Each of these holes is targeted at existing gaps in the drillhole database that are expected to contain broad mineralised intervals.

On successful completion of this initial program, a follow-up program comprising five additional diamond drillholes is expected to follow. The rationale is the same, but with systematic infilling of drilling to 100 m line spacing.

In addition to the new drilling, all drillholes on the drilled section lines for which core still exists will be relogged and, where appropriate, reassayed.

Metallurgical studies will be undertaken on core generated in these first drill programs to characterise the various geometallurgical classifications. Of particular interest will be the broad stringer zones of mineralisation, as well as the later styles of gold(-silver) mineralisation.

Additional work at Lewis Ponds over the coming months will also include:

- Deposit-scale geological mapping;
- Soil geochemistry at Lewis Ponds and along strike to the north and south; and
- LIDAR survey to generate an accurate 3-dimensional digital elevation model suitable for exploration planning, resource calculations, and mine planning.

⁴ Details of the Exploration Target were described in full in the announcement by Heron Resources dated 6 January 2017. An Exploration Target is a term used within the JORC2012 Code for an estimate of the exploration potential of a mineral deposit. As used in this release the stated Exploration Target is based upon the parameters described in the text, however the potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling.

		Zn	Cu	Pb	Au	Ag
Metal prices US\$ (21 Dec 2016)		2617	5488	2177	1133	16
Zinc Equivalent Estimate	Recovery for ZnEq calc	100%	80%	80%	90%	80%
	ZnEq recov multiply factor	1.000	1.678	0.665	1.253	0.016
Gold Equivalent Estimate	Recovery for AuEq calc	80%	80%	80%	100%	80%
	AuEq recov multiply factor	0.575	1.205	0.478	1.000	0.011

Scoping study level financial model for a 1.5Mtpa open-pit with base metal float circuit indicates 1.6% ZnEq is a suitable break-even cut-off grade.

3 Corporate

3.1 Capital structure on listing

The capital structure of Ardea Resources immediately prior to listing was as follows:

Description	Fully Paid Ordinary Shares	Unlisted Options*
Securities issued to Heron Resources Limited as part of the In-Specie Distribution	41,501,621	n/a
Securities issued under the Public Offer	25,499,126	n/a
Securities issued to Heron, the Lead Manager and the Corporate Advisor under the Option Offer	n/a	12,310,022
Total	67,000,747	12,310,022
Market capitalisation (at \$0.20 per share)	\$13.4 million	
Cash at bank	\$5.1 million	
Enterprise value	\$8.3 million	

**Unlisted options exercisable at \$0.25 each expiring on or before 3 years from the date of listing. Terms and conditions of these options are announced to the ASX separately as part of the Company's pre-quotations disclosure.*

3.2 Sale of shareholder facility shares

The share sale facility, established by Heron Resources to sell foreign shareholders' entitlement under the distribution of Ardea shares to Heron shareholders, was successfully completed prior to listing. Shares were sold at the listing price of A\$0.20.

3.3 Loyalty options

Shareholders are reminded that all Ardea in specie shares plus subscribed Ardea shares held three months after the 9 February 2017 listing date will qualify for a 1 for 3 bonus issue of Ardea Loyalty Options.

4 Acknowledgements

The Board of Ardea Resources would like to take this opportunity to thank new shareholders for their support during the IPO. We are committed to working diligently towards development of our projects with the overall objective of building value for you.

To the Heron shareholders who have stayed with Ardea, thank you for your ongoing faith and continued support. We will strive to repeat the success of past spin-offs from Heron Resources.

Thank you to the Board of Heron Resources who had the vision to create Ardea, seeing a way to build value for Heron shareholders from their undervalued assets. Ardea's Board wishes Heron Resources every success in their focus on bringing the Woodlawn Zinc-Copper Project into production.

Lastly, the Board would like to invite shareholders to contact us with your thoughts on Ardea. We value your input, and will always seek to answer any queries promptly.

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

Ardea Resources:

Dr Matt Painter
Managing Director, Ardea Resources Limited
Tel +61 8 6500 9200

Media or Investor Inquires:

FTI Consulting
Jon Snowball
Tel +61 2 8298 6100 or +61 477 946 068
jon.snowball@fticonsulting.com

Compliance Statement (JORC 2012 and NI43-101)

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

1. Lewis Ponds on 9 November 2016 (prospectus lodged by Ardea and Heron Resources);
2. Kalgoorlie Nickel Project on 21 October 2013 and 31 June 2014, October 2016, 2016 Heron Resources Annual Report and 6 January 2017;
3. 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 exploration target for Lewis Ponds and forward programs contained in this announcement are based on, and fairly represents, 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'. Dr Painter has reviewed the Heron Resources announcements the subject of the Second Supplementary Prospectus and consents to the inclusion of the information in the form and context in which it appears.

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. 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 information in this report that relates to Mineral Resources for the Goongarrie South, Big Four and Aubils Prospects is based on information originally compiled by Mr James Ridley in 2008 and 2009 when employed as a Senior Resource Geologist with Heron Resources Limited. The information in this report that relates to Mineral Resources for the Scotia and Black Range Prospects is based on information originally compiled by Snowden Mining Industry Consultants on behalf of Heron in 2004. The Mineral Resource estimates for all five prospect areas have been reviewed, validated and re-interpreted by James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Ridley is now a full-time employee of Ridley Mineral Resource Consulting Pty Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that 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'. Mr Ridley consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

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.