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ASX Symbol

ARL

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#### **Issued Capital**

*Fully Paid Ordinary Shares* 117,300,435

Directors/Employee Performance Rights 4,476,000

**ABN** 30 614 289 342

# Follow-up RC drilling commences at the Aphrodite North gold target

- Follow up RC drilling has commenced at the new **Aphrodite North** gold target within the Bardoc Tectonic Zone at Ardea's Goongarrie Nickel Cobalt Project.
- Assay results from resampling at 1m intervals of the >0.5g/t gold 6m composite aircore saproltitic clay intercepts has confirmed the gold mineralisation thickness and grade. Re-sample intercepts include:

0	AGSA0013	43-44m	1m at 2.46g/t Au
		120-127m	7m at 2.48g/t Au
0	AGSA0020	41-43m	2m at 4.46g/t Au

 Planned initial RC program totals 1,500m, aiming to test below the saprolite aircore anomalies at depth within fresh bedrock at AGSA0013 and 20.

Ardea holds some 65km of aggregate strike of the Bardoc Tectonic Zone (BTZ) within its Goongarrie Nickel Cobalt Project (GNCP), from Windanya in the south, to Big Four, Aphrodite North, Goongarrie, Highway-Moriaty, Menzies and finally to Ghost Rocks in the north (Figure 1 and 2).

The BTZ is the northern strike continuation of the Boulder Lefroy Tectonic Zone, which hosts Kalgoorlie-Boulder (>80Moz gold), New Celebration (3.2Moz) and St Ives (6.5Moz) gold camps (Figure 1). Despite the obvious gold pedigree of Ardea's GNCP tenure, since 1997 it has been solely developed as a nickel-cobalt laterite project, successively by Heron Resources and then Vale Inco (PFS 2009). With Ardea's acquisition of the project in 2017, for the first time in two decades, systematic gold evaluation commenced, through Ardea's gold and multi-element pathfinder assay suite.

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

The Aphrodite North initial aircore program was reported on 25 June 2020, testing 5km NNW along structure from the 1.7Moz Aphrodite gold deposit held by Bardoc Gold (ASX:BDC). This drilling was the first test of Ardea's GNCP gold model.

Ardea's Managing Director, Andrew Penkethman, noted:

"Ardea has a 5,100km<sup>2</sup> strategic and highly prospective tenement holding in the Eastern Goldfields world-class gold-nickel province. The land holding was originally acquired by Ardea for nickel-cobalt laterite, which occurs on major crustal structures on a specific ultramafic rock unit termed the Walter Williams Formation. Those same structures host some 100Moz of gold to the south along structure from the GNCP. Ardea thus controls a significant "greenfields" gold portfolio in which systematic gold drill evaluation is just commencing. Although AGSA0013 with 7m at 2.48g/t gold is an encouraging start, far more significant in the Aphrodite North aircore program was the confirmation of dolerite host rock, diorite and intensity of alteration over a 2.4km strike length and width up to 320m, all totally hidden beneath transported lake clay cover".



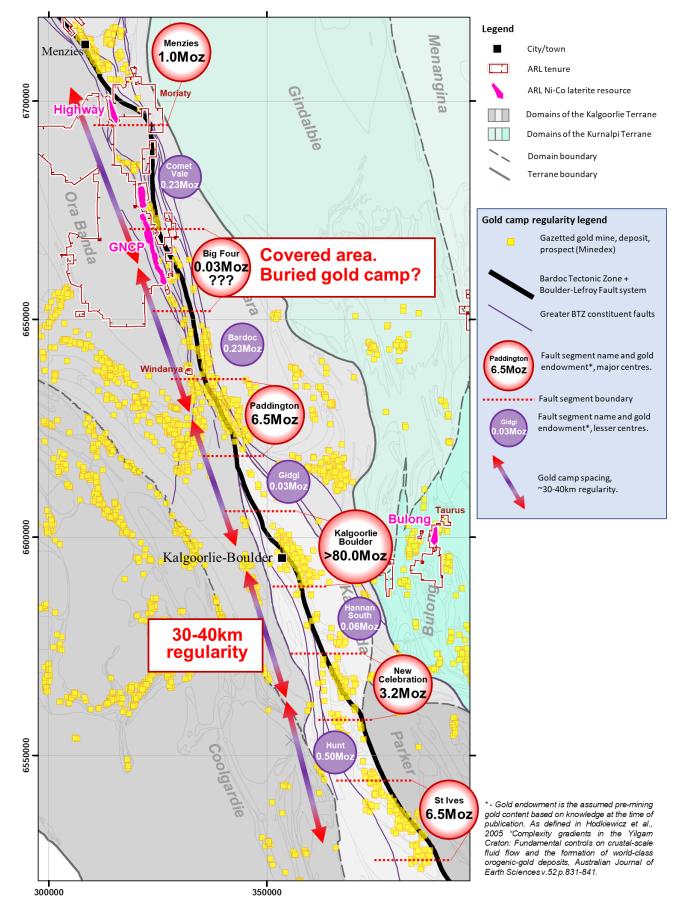


Figure 1 – Boulder Lefroy and Bardoc Tectonic Zones, showing gold endowment from 2005 as an indicative guideline to prospectivity of structures. Ardea tenements shown in red.

# Ardea Resources Limited

#### Confirmation assay results

Assay results from re-sampling at 1m intervals of the >0.5g/t gold 6m composite aircore intercepts has confirmed gold mineralisation thickness and grade. Re-sample intercepts include:

- AGSA0013, 36-37m, 1m at 0.86g/t Au 43-44m, 1m at 2.46g/t Au 120-127m, 7m at 2.48g/t Au
- AGSA0020, 41-43m, 2m at 4.46g/t Au
- AGSA0021, 44-46m, 2m at 1.10g/t Au
- AGSA0038, 69-70m, 1m at 1.90g/t Au

kaolin-haematite upper saprolite, completely oxidised kaolin-haematite upper saprolite, completely oxidised kaolin-chlorite-haematite lower saprolite, partial oxidised kaolin-haematite upper saprolite, completely oxidised kaolin-chlorite-haematite lower saprolite, partial oxidised kaolin-silica-goethite lower saprolite, partial oxidised

#### Interpretation

The presence of gold intercepts within "upper saprolite" is somewhat surprising, the upper saprolite being a bleached white, yellow and pink clay constituting a typical gold open cut "depleted zone".

Gold assays from this part of the Aphrodite North regolith are typically highly variable, suggesting coarse gold encapsulated within quartz or haematite. QAQC assays for replicates of AGSA0013/36-37m in upper saprolite were variable at 1.03, 0.73, 0.86 and 0.82g/t Au. In contrast, replicates for AGSA0013/122-123m in lower saprolite were 9.49 and 8.47g/t Au, suggesting a more consistent gold distribution with depth.

#### An insight into Ardea's exploration rationale

Ardea has taken a scientifically robust approach to define a coherent gold exploration rationale. It comprises a fractal methodology incorporating crustal, regional and local scale factors to identify prospective areas and discrete targets within them.

Unlike many gold explorers, most of Ardea's gold targets are early stage "greenfields" targets, but with potential for significant large-scale systems. In the Goongarrie South area, this is a function of several factors:

- Previous explorers' primary focus on nickel-cobalt laterite mineralisation and tenure.
- Near-complete covering of the bedrock geology by transported lake and alluvial deposits that totally obscure any bedrock gold anomalism.
- The generation of numerous gold targets by Ardea through its regional data sets and multi-element assay suite, with most targets not previously identified (pre-2017).

Ardea effectively has a gold portfolio which was "snap-frozen" from 1997, having been by-passed during the subsequent gold booms of 2011-2012 and the current run commencing in 2018.

Ardea will be testing the highest-ranked targets generated through a 4-stage exploration process that will be rolled out across the GNCP and other project areas with established gold pedigree such as Windanya and Bulong:

- 1. First-pass, low-cost detection of gold anomalism through aircore (or similar) drilling of weathered rock beneath cover (e.g. Aphrodite North).
- 2. Follow-up penetration into fresh rock using RC drilling or similar to confirm gold mineralisation at depth, as commenced at Aphrodite North today.
- 3. RC and diamond drill-out program(s) to define geometry, extent, grade, and style of gold mineralisation.
- 4. JORC resource estimate definition.

Initial exploration results such as those reported on 25 June 2020 at Aphrodite North exceed the Company's thresholds for Stage 2 follow-up by a factor of over 30 for gold grade and by nearly 2 km for strike extent. The intensity of this anomalism, which is located in the weathered zone above a primary orogenic gold deposit, should it exist, represents an extraordinary result for first-pass exploration of a "greenfields" buried, historically undrilled area.



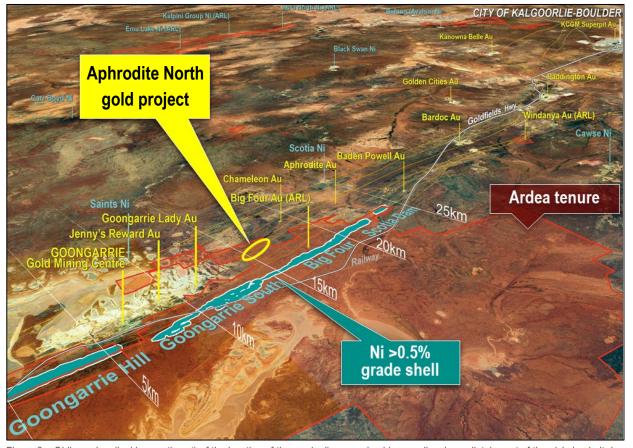


Figure 2 – Oblique view (looking southeast) of the location of the newly discovered gold anomalism immediately east of the nickel-cobalt deposits of the GNCP. The area was targeted as part of Ardea's extensive targeting program aimed at identifying gold deposits hidden by surface cover, along the prolific Bardoc Tectonic Zone. Known gold occurrences are labelled in yellow and nickel occurrences in green.

#### Elephant country: a buried gold camp?

The strength of the gold and pathfinder anomalism at Aphrodite North (Figure 3) as well as many other target areas at Goongarrie South may be hinting at a significant system.

Ardea's gold targeting program has identified a regional-scale gold target area measuring around 9 x 3 km on Ardea's tenure. It has strong geological parallels with the Menzies gold camp to the north and the Paddington gold camp to the south. These gold camps each comprise tens to hundreds of historic (and some active) gold mines and workings within a defined area of predominantly outcrop and subcrop. These areas each mark a portion of the Bardoc Tectonic Zone that has been the focus of an intense gold-bearing fluid flux parental to the gold deposits. By contrast, outcrop at the GNCP is almost totally absent.

Through wide-ranging, scientifically robust interrogation of public and proprietary geophysical and geochemical datasets, Ardea believes that a similar extensive zone of intense gold-bearing fluid flux may lie beneath the transported and lateritic cover of the Big Four and Goongarrie South areas of the GNCP. The Company is targeting this zone with its forthcoming and current drill programs. This zone incorporates the Aphrodite North project area and the Big Four Gold resource (ASX release 14 May 2020) as well as *over one hundred* gold targets identified by Ardea that remain to be tested. It also adjoins at its southernmost extent Bardoc Gold's 1.7Moz Aphrodite gold deposit located along structure to the south (BDC ASX release 25 June 2020).

Initial testing of this proposed gold flux zone is underway and to date incorporates the initial aircore drill program at Aphrodite North, the current follow up RC drill program, and the program just commenced in the Grafter / Digger's Luck area southeast of Big Four Gold. Abnormally strong, sub-surface, lateritic gold anomalism that has, in many cases, never been tested despite the strength and extent of many anomalies exceeding those typical of the Eastern Goldfields, occurs throughout the target area. Numerous targets are being ranked and priority established for forthcoming drill programs.



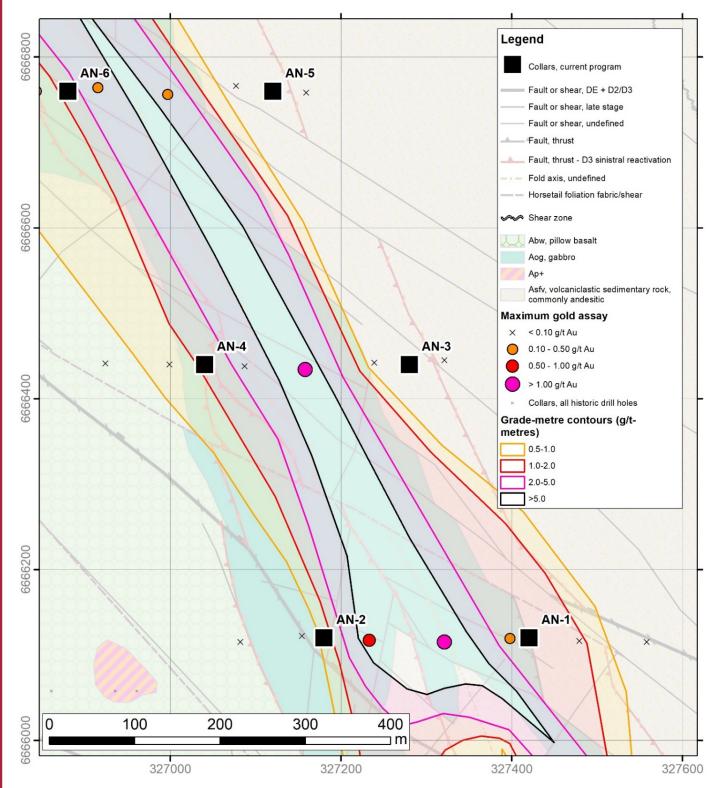


Figure 3 – Aphrodite North RC follow up drill collars shown with interpreted geology and gold metre-gram contours based on the initial composite aircore results. Program may be modified on basis of progressive lithology and alteration logging and portable XRF pathfinder assays.



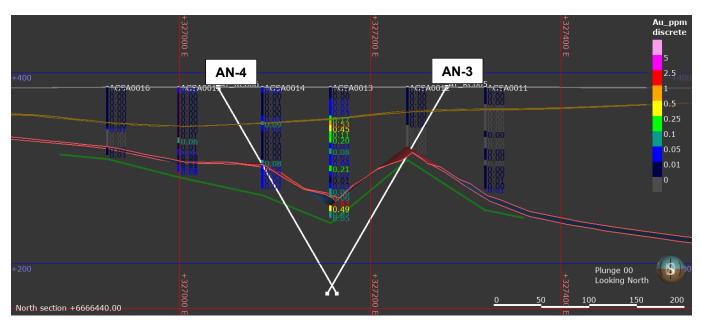


Figure 4 – Central cross-section (6666440mN), looking north, showing planned RC drill holes beneath extensive lateritic anomalism. NOTE – 6m assay intervals shown. Brown line base of lake cover sediments. Red line base of saprolite upper and green line base of saprolite lower.

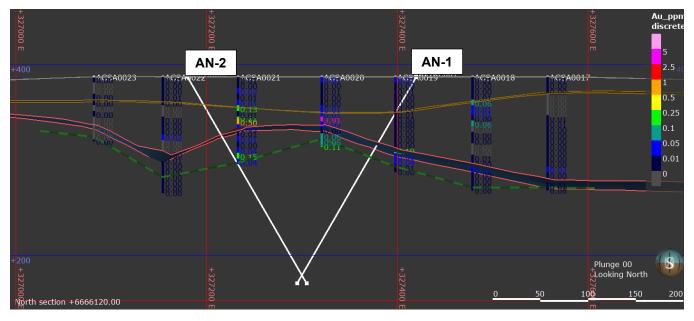


Figure 5 – Southern cross section (6666120mN), looking north, showing planned RC drill holes beneath extensive lateritic anomalism. NOTE – 6m assay intervals shown. Brown line base of lake cover sediments. Red line base of saprolite upper and green line base of saprolite lower.



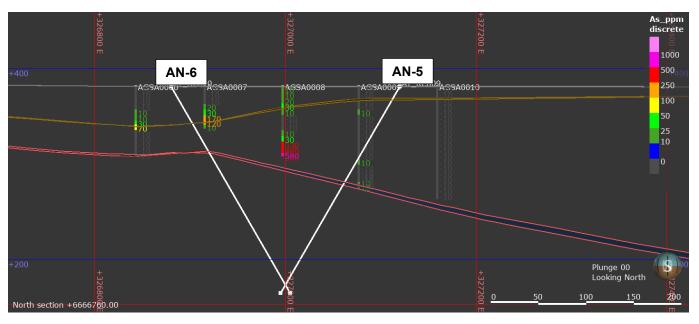


Figure 6 – Northern cross section (6666760mN), looking north, showing planned RC drill holes beneath extensive lateritic arsenic (rather than gold) anomalism. NOTE – 6m assay intervals shown. Brown line base of lake cover sediments. Red line base of saprolite upper. Saprolite lower not intersected.

#### Forward Program

Deep RC drilling has been planned beneath the three aircore drill sections that showed the strongest gold anomalism and other positive pathfinder elements including intensity of alteration (Figure 4, 5 and 6).

The aircore holes for follow-up are AGSA0008, 13 and 20. The aim is to determine if primary gold mineralisation is present, and if so, what is the lode orientation and controls on that mineralisation.

The RC program commencing today consists of two holes in "scissor" arrangement, each to 250m, to test fresh bedrock beneath the aircore saprolite gold anomalies. This is required prior to any closer spaced drill out, such as an 80x40m drill hole spacing.

The geometry and specific controls on gold mineralisation at Aphrodite North are still to be determined and the planned RC holes will help advance this understanding.

Authorised for lodgement by Andrew Penkethman, Managing Director of Ardea Resources Limited.



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

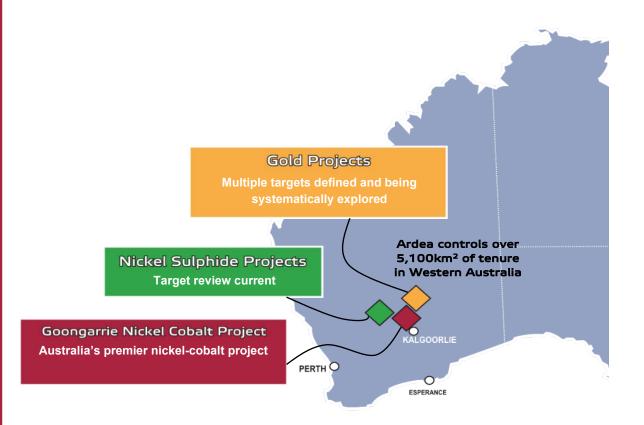
#### **Ardea Resources**

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

#### **About Ardea Resources**

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

- Development of the Goongarrie Nickel Cobalt Project, which is part of the Kalgoorlie Nickel Project, a globally significant series of nickel-cobalt deposits which host the largest nickel-cobalt resource in the developed world, coincidentally located as a cover sequence overlying fertile orogenic gold targets; and
- Advanced-stage exploration within its 5,100km<sup>2</sup> WA gold and nickel sulphide tenure located on crustal-scale structures in lake settings within the Eastern Goldfields world-class gold-nickel province.



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#### CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This news release contains forward-looking statements and forward-looking information within the meaning of applicable Australian securities laws, which are based on expectations, estimates and projections as of the date of this news release.

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "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 develop the GNCP on the basis of any 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.

#### **Competent Person Statement**

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Dr Matthew Painter, a Competent Person who is a Member of the Australian Institute of Geoscientists. Dr Painter is a full-time employee of Ardea Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being 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. Dr Painter consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



### Appendix 1 – Collar location data

Collar location data for all new drill holes by Ardea Resources at the new target area at Aphrodite North, within the broader Goongarrie South area.

Drill hole	Туре	Depth	Tenement	Grid	Easting	Northing	RL	Dip	Azimuth
		(m)			(mE)	(mN)	(mASL)	(°)	(°)
AGSA0013	AC	137	M29/426	MGA94_51	327158	6666434	385	-90	000
AGSA0020	AC	73	M29/426	MGA94_51	327321	6666115	387	-90	000
AGSA0021	AC	92	M29/426	MGA94_51	327233	6666117	387	-90	000
AGSA0038	AC	92	M29/426	MGA94_51	327721	6665644	389	-90	000



### Appendix 2 – Assay results

All 1m assay results from recent drilling program at the new target area at Aphrodite North, within the broader Goongarrie South area.

Abbreviations used: Au – gold, m – metre, g/t – grams per tonne, b.d. – below detection.

Hole	From	То	Sample	Au	Pd	Pt
TIOLE	(m)	(m)	number	(g/t)	(g/t)	(g/t)
AGSA0013	33	34	AR032257	0.07	b.d.	b.d.
AGSA0013	34	35	AR032258	0.09	b.d.	b.d.
AGSA0013	35	36	AR032259	0.04	b.d.	b.d.
AGSA0013	36	37	AR032260	1.03	b.d.	b.d.
AGSA0013	37	38	AR032262	0.05	b.d.	b.d.
AGSA0013	38	39	AR032263	0.01	b.d.	b.d.
AGSA0013	39	40	AR032264	0.02	b.d.	b.d.
AGSA0013	40	41	AR032265	0.01	b.d.	b.d.
AGSA0013	41	42	AR032266	0.02	b.d.	b.d.
AGSA0013	42	43	AR032267	0.02	b.d.	b.d.
AGSA0013	43	44	AR032268	2.49	b.d.	b.d.
AGSA0013	44	45	AR032269	0.11	b.d.	b.d.
AGSA0013	45	46	AR032270	0.11	b.d.	b.d.
AGSA0013	46	47	AR032272	0.32	b.d.	b.d.
AGSA0013	47	48	AR032273	0.27	b.d.	b.d.
AGSA0013	115	116	AR032274	0.08	b.d.	b.d.
AGSA0013	116	117	AR032275	0.04	b.d.	b.d.
AGSA0013	117	118	AR032276	0.02	b.d.	b.d.
AGSA0013	118	119	AR032277	0.02	b.d.	b.d.
AGSA0013	119	120	AR032278	0.40	b.d.	b.d.
AGSA0013	120	121	AR032279	0.77	b.d.	b.d.
AGSA0013	121	122	AR032280	0.57	b.d.	b.d.
AGSA0013	122	123	AR032282	9.49	b.d.	b.d.
AGSA0013	123	124	AR032283	2.37	b.d.	b.d.
AGSA0013	124	125	AR032284	2.69	b.d.	b.d.
AGSA0013	125	126	AR032285	1.33	b.d.	b.d.
AGSA0013	126	127	AR032286	0.68	b.d.	b.d.
AGSA0013	127	128	AR032287	0.24	b.d.	b.d.
AGSA0013	128	129	AR032288	0.12	b.d.	b.d.
AGSA0013	129	130	AR032289	0.02	b.d.	b.d.
AGSA0013	130	131	AR032290	0.10	b.d.	b.d.
AGSA0013	131	132	AR032292	0.12	b.d.	b.d.
AGSA0020	39	40	AR032305	0.03	b.d.	b.d.

Hole	From	То	Sample	Au	Pd	Pt
TIOle			number	(g/t)	(g/t)	(g/t)
AGSA0020	40	41	AR032306	0.00	b.d.	0.005
AGSA0020	41	42	AR032307	1.68	b.d.	b.d.
AGSA0020	42	43	AR032308	7.24	b.d.	b.d.
AGSA0020	43	44	AR032309	0.44	b.d.	b.d.
AGSA0020	44	45	AR032310	0.03	b.d.	b.d.
AGSA0020	45	46	AR032312	0.03	b.d.	b.d.
AGSA0020	46	47	AR032313	0.01	b.d.	b.d.
AGSA0020	47	48	AR032314	0.02	b.d.	b.d.
AGSA0020	48	49	AR032315	0.00	b.d.	b.d.
AGSA0021	41	42	AR032293	0.00	0.02	0.06
AGSA0021	42	43	AR032294	0.12	0.015	0.015
AGSA0021	43	44	AR032295	0.01	0.01	0.02
AGSA0021	44	45	AR032296	0.68	0.01	0.015
AGSA0021	45	46	AR032297	1.10	0.005	0.005
AGSA0021	46	47	AR032298	0.11	0.005	0.005
AGSA0021	47	48	AR032299	0.33	0.005	0.005
AGSA0021	48	49	AR032300	0.22	0.01	0.015
AGSA0021	49	50	AR032302	0.03	0.005	0.01
AGSA0021	50	51	AR032303	0.08	0.005	0.01
AGSA0021	51	52	AR032304	0.03	0.005	0.01
AGSA0038	63	64	AR032316	0.15	b.d.	b.d.
AGSA0038	64	65	AR032317	0.03	b.d.	b.d.
AGSA0038	65	66	AR032318	0.02	b.d.	b.d.
AGSA0038	66	67	AR032319	0.01	b.d.	b.d.
AGSA0038	67	68	AR032320	0.00	b.d.	b.d.
AGSA0038	68	69	AR032322	0.00	b.d.	b.d.
AGSA0038	69	70	AR032323	1.84	b.d.	b.d.
AGSA0038	70	71	AR032324	0.25	b.d.	b.d.
AGSA0038	71	72	AR032325	0.01	b.d.	b.d.
AGSA0038	72	73	AR032326	0.00	b.d.	b.d.
AGSA0038	73	74	AR032327	0.00	b.d.	b.d.



## Appendix 3 – JORC Code, 2012 Edition, Table 1 report

### Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more</li> </ul>	<ul> <li>All AC holes were initially sampled on a 6 metre down hole interval basis, with exceptions being made for end of hole final-lengths and some other drilling pauses and geological boundaries. All sampling lengths were recorded in ARL's standard sampling record spreadsheets.</li> <li>This release provides specifics on sampling of the 1 metre air core sample piles, selected based on the initial composite results.</li> <li>The drill spacing was nominally 320mN x 80mE, with two lines spaced at 160mN based on proprietary targeting criteria. An outlying drill hole was also drilled to test anomalous surface detritus and geophysical anomalism.</li> <li>AC blade drilling was used to collect 1 m samples from the transported and deeply weathered profiled. All drill holes were drilled to blade refusal. Samples were collected in small 1 m piles on the ground, spaced regularly into 10m long lines.</li> <li>Industry standard practice was used in the processing of samples for assay, with 6m intervals composited from 1m AC sample piles/bags. The composites were taken with a PVC scoop from these piles, ensuring sampling of the upper and lower portions of the pile and therefore the complete metre. Resultant composites weighed around 3kg.</li> <li>Regular air and manual cleaning of the cyclone was performed to remove sticky clays common in the transported profile.</li> <li>Assay of samples utilised standard laboratory techniques with standard ICP-AES undertaken on 50 gram samples for Au, Pt and Pd, and lithium borate fused-bead XRF analysis used for the remaining multi-element suite. Further details of lab processing techniques are found in Quality of assay data and laboratory tests below.</li> </ul>
Drilling techniques	hole hammer, rotary air blast, auger, Bangka,	<ul> <li>In this program, Ardea drilled the unnamed gold target area project with 46 aircore (AC) drill holes. All holes were drilled vertically.</li> <li>AC drilling was performed with a 3¼" blade bit and samples were collected by a cone splitter for 1 metre intervals. These were subsequently composited from the sample piles.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>AC sample recovery was assessed by visual estimation of the reject sample, expressed as a percentage recovery. Overall estimated recovery was high. AC sample condition recorded using a three code system, D=Dry, M=Moist, W=Wet. Most wet samples were associated with soft goethite clays, where water injection has been used to improve drill recovery.</li> <li>Measures taken to ensure maximum AC sample recoveries included maintaining a clean cyclone and drilling equipment, using water injection at times of reduced air circulation, as well as regular communication with the drillers and slowing drill advance rates when variable to poor ground conditions are encountered.</li> </ul>
Logging	<ul> <li>geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the</li> </ul>	<ul> <li>AC logging was undertaken on 1 metre intervals. Visual geological logging was completed for all drilling both at the time of drilling (using standard Ardea logging codes), and later over relevant met-sample intervals with a metallurgical-logging perspective. Aircore results cannot be used in a resource estimation.</li> <li>Logging was performed at the time of drilling, and planned drill hole target lengths adjusted by the geologist during drilling. The geologist also oversaw all sampling and drilling practices. ARL employees supervised all drilling. A small selection of representative chips were collected for every 1 metre interval and stored in chip-trays for future reference.</li> <li>In total, 3,787 m were drilled during the program, with the chips generated during entire program logged in detail.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation</li> </ul>	<ul> <li>6 metre composite samples were recovered using a 15:1 rig mounted cone splitter during drilling into 1m piles, and then scoop sampled into a calico bag. Sample target weight was between 2 and 3kg. In the case of wet clay samples, grab samples taken from sample return pile, initially into a calico sample bag.</li> <li>The selected 1 metre samples were scoop sampled from the 1 metre sample piles located at the drilling site, into a calico bag. Sample target weight was between 2 and 3kg.</li> <li>QAQC was employed. A standard, blank or duplicate sample was inserted into the sample stream every 10 samples on a rotating basis. Standards were quantified industry standards. Every 30th sample a duplicate sample was taken using the same sample sub sample technique as the original sub sample. Sample sizes are</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	appropriate for the nature of mineralisation.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>All Ardea samples were submitted to Kalgoorlie Bureau Veritas (BV) laboratories and transported to BV Perth, where they were pulverised.</li> <li>The samples were sorted, wet weighed, dried then weighed again. Primary preparation has been by crushing and splitting the sample with a riffle splitter where necessary to obtain a sub-fraction which has then been pulverised in a vibrating pulveriser. All coarse residues have been retained.</li> <li>The samples have been cast using a 66:34 flux with 4% lithium nitrate added to form a glass bead. Al, As, Ba, Ca, Cl, Co, Cr, Cu, Fe, Ga, K, Mg, Mn, Na, Ni, P, Pb, S, Sc, Si, Sr, Ti, V, Zn, Zr have been determined by X-Ray Fluorescence (XRF) Spectrometry on oven dry (105'C) sample unless otherwise stated.</li> <li>A fused bead for Laser Ablation MS was created to define Ag_LA, Be_LA, Bi_LA, Cd_LA, Ce_LA, Co_LA, Cs_LA, Dy_LA, Er_LA, Eu_LA, Gd_LA, Ge_LA, Hf_LA, Ho_LA, In_LA, La_LA, Lu_LA, Mo_LA, Nb_LA, Nd_LA, Ni_LA, Pr_LA, Rb_LA, Re_LA, Sb_LA, Sc_LA, Se_LA, Sm_LA, Ta_LA, Tb_LA, Te_LA, Th_LA, TI_LA, TM_LA, U_LA, V_LA, W_LA, Y_LA, Vb_LA, which have been determined by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (IAICP-MS).</li> <li>The samples have been analysed by Firing a 40 g (approx) portion of the sample. Lower sample weights may be employed for samples with very high sulphide and metal contents. This is the classical fire assay process and will give total separation of Gold, Platinum and Palladium in the sample. Au1, Pd, Pt have been determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry.</li> <li>Loss on Ignition results have been determined gravimetrically.</li> <li>BV routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring.</li> <li>Ardea also inserted QAQC samples into the sample stream at a 1 in 10 frequency, alternating between blanks (industrial sands) and standard reference materials. Additionally, a review was conducted for geochemical va</li></ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>BV routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring.</li> <li>Ardea also inserted QAQC samples into the sample stream at a 1 in 20 frequency, alternating between duplicates splits, blanks (industrial sands) and standard reference materials.</li> <li>All of the QAQC data has been statistically assessed. Ardea has undertaken its own further in-house review of QAQC results of the BV routine standards, 100% of which returned within acceptable QAQC limits. This fact combined with the fact that the data is demonstrably consistent has meant that the results are considered to be acceptable and suitable for reporting.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All drill hole collar positions were recorded using a handheld GPS. The coordinates are stored in the exploration database referenced to the MGA Zone 51 Datum GDA94. A handheld GPS pickup up of drill collar locations is considered sufficiently accurate for exploration purposes. It is not suitable for reporting of resources, mine planning or reserves.</li> <li>Downhole surveys were not undertaken as per usual AC practice.</li> <li>Topography is very flat. The topographic surface has been constructed from hole collar surveys. These are consistent with regional DTMs and are considered adequate for exploration purposes.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The drill spacing was nominally 320mN x 80mE, with two lines spaced at 160mN based on proprietary targeting criteria. An outlying drill hole was also drilled to test anomalous surface detritus and geophysical anomalism.</li> <li>The spacing is not considered sufficient for the definition of Mineral Resources.</li> <li>Samples were composited over 6 m for the entire drill program with exceptions being made for end of hole final-lengths and some other drilling pauses and geological boundaries.</li> </ul>
Orientation of data in	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and</li> </ul>	<ul><li>All drill holes in this program were vertical.</li><li>The orientation of the drilling was adequate to sample the weathered profile. Without</li></ul>



Criteria	JORC Code explanation	Commentary
relation to geological structure	<ul> <li>the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	outcrop or diamond drilling, the orientation of mineralised structures if present is unknown. Presently there is insufficient information to preclude define whether there has been sampling bias, as is typical of first-pass aircore programs that are entirely under cover.
Sample security	<ul> <li>The measures taken to ensure sample security.</li> </ul>	<ul> <li>All samples were collected and accounted for by ARL employees/consultants during drilling. All samples were bagged into calico plastic bags and closed with cable ties. Samples were transported to Kalgoorlie from logging site by ARL employees/ consultants and submitted directly to BV Kalgoorlie.</li> <li>The appropriate manifest of sample numbers and a sample submission form containing laboratory instructions were submitted to the laboratory. Any discrepancies between sample submissions and samples received were routinely followed up and accounted for.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audit or review beyond normal operating procedures has yet been undertaken on the current dataset. ARL has periodically conducted internal reviews of sampling techniques relating to resultant exploration datasets, and larger scale reviews capturing the data from multiple drilling programs.</li> <li>Internal reviews of the exploration data included the following: <ul> <li>Unsurveyed drill hole collars (less than 1% of collars).</li> <li>Drill Holes with overlapping intervals (0%).</li> <li>Drill Holes with no logging data (less than 2% of holes).</li> <li>Sample logging intervals beyond end of hole depths (0%).</li> </ul> </li> <li>Samples with no assay data (from 0 to &lt;5% for any given project, usually related to issues with sample recovery from difficult ground conditions, mechanical issues with drill rig, damage to sample in transport or sample preparation).</li> <li>Assay grade ranges.</li> <li>Collar coordinate ranges</li> <li>Valid hole orientation data.</li> </ul> <li>The BV Laboratory was visited by ARL staff in 2017, and the laboratory processes and procedures were reviewed at this time and determined to be robust.</li>



### **Section 2 - Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The tenement on which the drilling was undertaken is M29/426. ARL, through its subsidiary companies, is the sole holder of the tenement. The tenement is in good standing.</li> <li>Heritage surveys over the area did not identify any areas of interest over or near the program area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The target area has not been subject to systematic exploration previously. The area was identified through appraisal of regional open file datasets and proprietary targeting criteria and datasets. Nickel laterite resource drilling is located ~3km to the west, and sporadic historic gold drilling recorded in open file is evident outside the tenure to the north and south. A handful of shallow drillholes of unknown type coincide with the footprint of the current drill program but are considered to have been drilled to insufficient depth and are therefore likely ineffective.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The geology the target area is still under assessment. With a complete lack of exposure, geophysics and the results of this program are the only information. The target style of mineralisation is orogenic shear or vein hosted gold mineralisation. However, this current program has not sampled fresh rock to any great extent, and definitive details of the mineralisation style are unlikely to be gleaned from further analysis of the dataset generated.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
Drill hole Information	<ul> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>All assay data relating to the metals of interest at the target area, namely gold and associated trace finder elements arsenic, antimony, silver and sulphur, are listed in "Appendix 2 – Assay results". Other elements were assayed but have not been reported here. They are of use and of interest from a scientific and metallurgical perspective but are not considered material and their exclusion does not detract from the understanding of this report.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Gold intercepts have not been defined from data generated in this program.</li> <li>All assay samples were composited over 6 m.</li> <li>No metal equivalent calculations have been used in this assessment.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>All drill holes in this program were vertical.</li> <li>All recorded mineralisation is within the weathering profile and there is presently no way to confirm the orientation of primary mineralisation. Assay results from confirmatory sampling are pending which will assist with better resolution of gold anomalism through the profile.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be</li> </ul>	<ul> <li>Appropriate maps and sections are shown in the body of the document.</li> </ul>



Criteria	JORC Code explanation	Commentary
	limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Not applicable to this report. All results are reported either in the text or in the associated appendices.</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul> <li>No other data are, at this stage, known to be either beneficial or deleterious to recovery of the metals reported.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Confirmatory sampling is being undertaken, and assay results are pending.</li> <li>Further drilling is required to identify the extent and nature of primary mineralisation (if it exists) in fresh rock. However, this drilling has not yet been defined. Further drilling could include infill drilling and deeper RC and/or diamond drilling to depth.</li> <li>Metallurgical assessment of the project area is not appropriate at this stage.</li> </ul>