Level 7, 191 Clarence St, Sydney, NSW, 2000
heron@heronresources.com.au
+61 8 6500 9200 / +61 2 9119 8111
ABN: 30 068 263 098

Heron Resources Limited

ASX/TSX Release

6 January 2017

Ardea Resources Limited
Project Update

Recent technical advancements have been realised within Ardea's projects:

- **Kalgoorlie Nickel Project (KNP)**
  - **Cobalt development focus in light of surging demand from tech industry**
  - **KNP Cobalt Zone has a JORC 2012-compliant resource of 49.7Mt at 0.12% cobalt and 0.86% nickel**
  - **Cobalt-enriched zones are contained within and are a subset of the broader KNP resource of 805Mt at 0.05% cobalt and 0.7% nickel[1], being Australia and the developed world's largest cobalt resource**
  - **KNP Chrysoprase (semi-precious gemstone) mechanised bulk production opportunity identified**
- **Lewis Ponds**
  - **Bulk tonnage Exploration Target defined**
  - **Significant base metal-gold open-pit potential, with orogenic gold and base metal mineralisation defined which is very similar to other large deposits in the region**
  - **Lewis Ponds Main Zone and Tom's Zone main shaft mullock sampling by Ardea returned assays of 9.9–12.1g/t gold and 272–539g/t silver, possible epithermal mineralised affinity**
- **New tenement applications complementing existing Ardea projects**
  - **Lewis Ponds, NSW – several licence applications secured and already recommended for grant**
  - **Bedonia West and Perrinvale, WA – high quality Ni-Cu-PGM targets acquired**

Heron Resources Limited (Heron or Company) is pleased to provide an update on **Ardea Resources Limited** (Ardea) and its project activities, as disclosed in the prospectus (Prospectus) lodged with the Australian Securities and Investments Commission on 9 November 2016 and Supplementary Prospectus lodged 18 November 2016.

Ardea's management team has completed preparatory field programs including rock chip sampling ahead of the 2017 listing and project drilling. The recent focus has been on resource estimation and preparation of drilling approvals at Goongarrie South, Black Range and Kalpini (KNP Cobalt Zones) and at Lewis Ponds, and scoping of metallurgical and feasibility work for the KNP Cobalt Zone deposits and the Lewis Ponds stringer mineralisation.

[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
KNP Total Measured and Indicated	*253.6*	*0.052*	*0.76*
Inferred	551.7	0.046	0.68
KNP Total Resources	**805.3**	**0.048**	**0.70**

1. Cobalt focus for the Kalgoorlie Nickel Project

1.1. High-grade cobalt resource

The global KNP resource of 805Mt at 0.05% cobalt and 0.7% nickel contains within it high-grade concentrations of cobalt-rich mineralisation at Goongarrie South, Big Four, Scotia Dam, Aubils and Black Range (refer Ardea Prospectus pages 84-87 for global resource details).

An upgraded cobalt-focused global resource for the KNP was defined as **49.7Mt at 0.12% Co and 0.86% Ni** (refer Heron ASX announcement 6 January 2017 for global resource details). This resource comprises a recalculation of cobalt resources at Goongarrie South, Big Four, Scotia Dam and Aubils combined with the historic resource calculated for the Black Range area as defined in the Prospectus.

This new KNP Cobalt Zone resource is comprised as follows:

Table 1 – KNP Cobalt Zone – Resource Statement from independent consultancy Ridley Mineral Resource Consulting Pty Ltd

Area	Prospect	Resource category	Cutoff (% Co)	Size (Mt)	Co (%)	Ni %	MgO* %	FeO* %	Al_2O_3* %	SiO_2* %	CaO* %	Mn* %	Cr* %
Goongarrie	Goongarrie South	Measured	0.08	3.4	0.14	1.19	1.6	47	6.3	17	0.16	1.02	1.27
		Indicated	0.08	11.2	0.11	0.92	1.8	43	6.2	23	0.78	0.71	1.20
		Inferred	0.08	1.4	0.11	0.76	1.8	39	5.9	30	0.32	0.74	1.20
	Big Four	Indicated	0.08	4.5	0.11	0.89	1.6	40	5.3	32	0.68	0.76	1.07
		Inferred	0.08	0.2	0.11	0.95	1.6	38	4.2	36	0.25	0.73	1.09
	Scotia Dam	Inferred	0.08	2.9	0.14	0.88	3.2	34	4.4				
	Goongarrie subtotal			*23.6*	*0.12*	*0.94*							
Siberia	Black Range	Inferred	0.50(Ni)	20.1	0.10	0.75	7.9	28	6.7				
Yerilla	Aubils	Inferred	0.08	6.0	0.15	0.90	6.4	33	4.7	31	4.57	0.91	
KNP TOTAL				**49.7**	**0.12**	**0.86**							

*Estimates for MgO, FeO, Al_2O_3, SiO_2, CaO, Mn and Cr are provided for reference only and do not constitute Mineral Resources

Figure 1 – KNP pyrolusitic ore. This drill sample from 2001 assayed approximately 1% Co and 2% Ni. The cobalt-rich material occurs within the upper part of the cobalt-nickel laterite profile.

Figure 2 – Run-of-mine KNP siliceous ore. This mine face includes green chrysoprase veining. Chrysoprase material tends to occur within the lower part of the cobalt-nickel laterite profile.

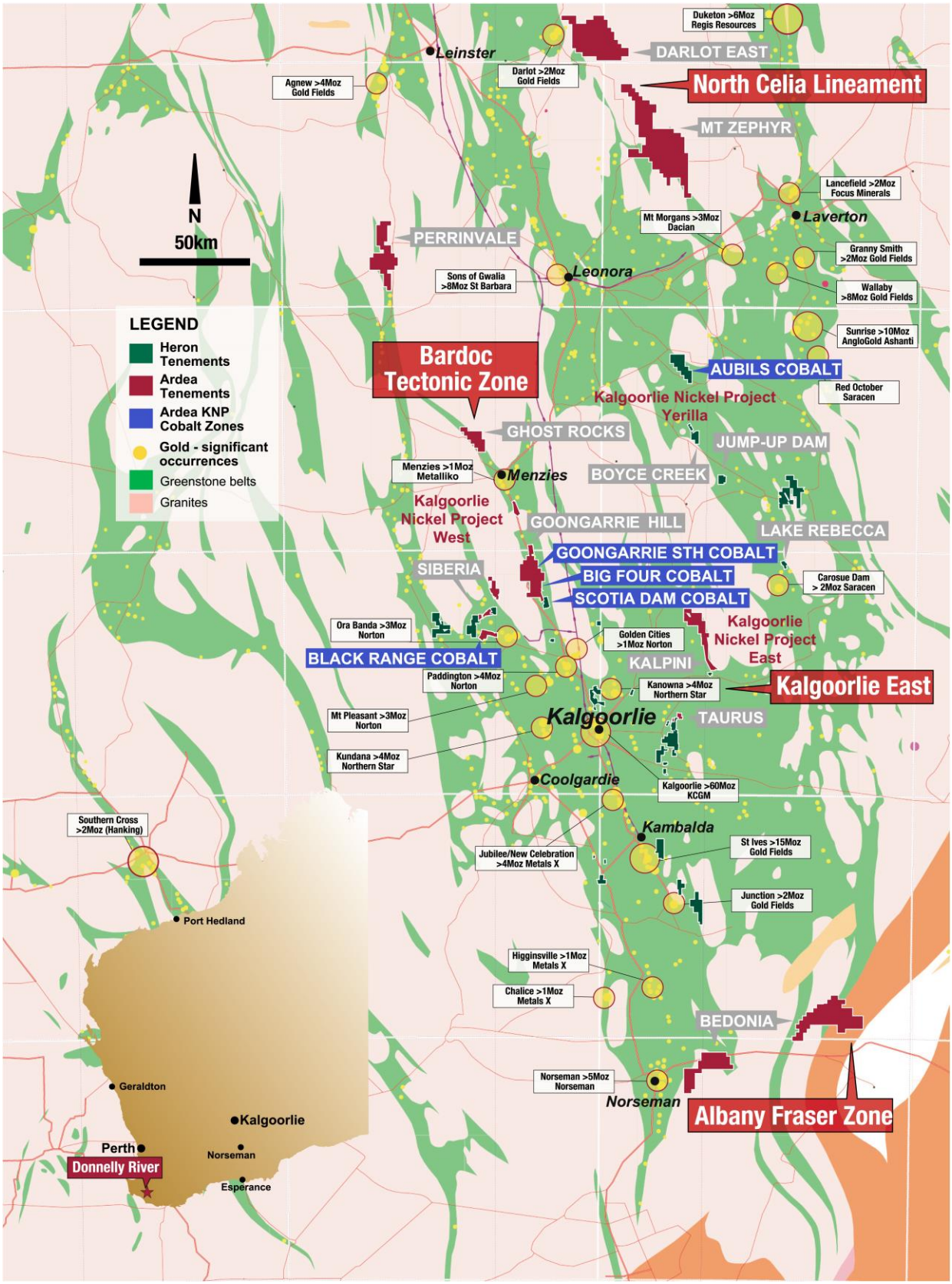

Figure 3 – Ardea WA projects, showing the Goongarrie South, Big Four, Scotia Dam, Black Range and Aubils Cobalt Zones.

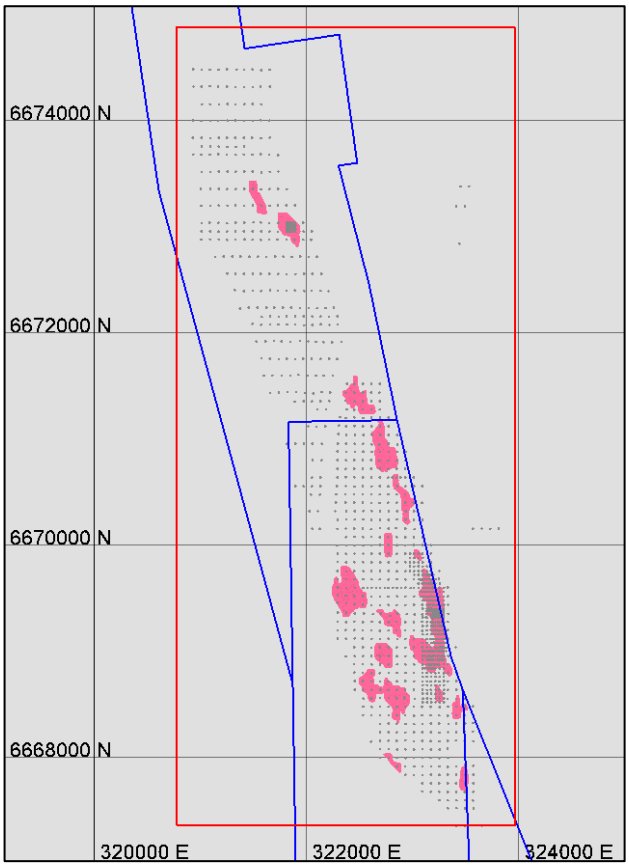

Figure 4 - Goongarrie South – work currently underway, showing 0.08% Co trimmed block model grade shell

1.1.1. Goongarrie South

The resource estimation reviewed existing KNP 0.5% Ni cut-off grade blocks which coincidentally exceed 0.08% Co and where they define coherent mining shapes. These grade shells were subsequently trimmed on an individual wireframe basis, excluding wireframe pods with less than three mineralised drillhole intersections, except where nearby adjacent drillhole intersections demonstrate continuity of the mineralisation above the 0.08% Co cut-off grade.

The cobalt review included the Goongarrie South–Big Four–Scotia Dam resource belt. This area will clearly will be the focus of Ardea's future cobalt program.

The current working concept is a Goongarrie South to Scotia Dam production rate of 2Mtpa at 0.12% Co and 0.94% Ni for approximately 2ktpa cobalt in intermediate product (a cobalt- and nickel-bearing manganese oxide) with in addition some 16ktpa nickel (distributed between battery feedstock and conventional nickel refinery feed). Plant site location would be at Goongarrie South at the northern end of the cobalt belt, with initial mine scheduling being a zone at Goongarrie South termed the "Pamela Jean Deeps".

1.1.2. KNP, Australia's largest cobalt resource

Containing 386,400 tonnes of contained cobalt metal, the KNP is Australia's largest cobalt deposit. By this measure, it is more than three times larger than Australia's second largest cobalt deposit. The newly-reported cobalt resource from the high-grade KNP Cobalt Zone is a subset of the larger KNP resource, and this subset is by itself Australia's fourth largest cobalt resource, containing 59,600 tonnes of cobalt metal. The KNP Cobalt Zone also has one of the highest cobalt grades in Australia.

The updated resource reporting for cobalt-rich zones provides an insight into the potential to define further cobalt-rich zones in the KNP on the basis of remodeling work planned by Ardea that is focused on cobalt. Updated resource reporting on the cobalt-rich mineralisation at the KNP marks the first part of a refocusing for the KNP onto the cobalt component of the deposit.

Forthcoming drilling and metallurgical studies will move the KNP towards a PFS focusing on feedstocks for the lithium ion battery industry (Lithium Nickel Manganese Cobalt Oxide - $LiNiMnCoO_2$ or NMC).

The drilling focus in ranking will be the contiguous cobalt zones in the Goongarrie South belt and at Black Range and Kalpini. The drilling will secure material for bench-scale metallurgical assessment.

1.2. Semi-precious gemstones within the KNP – Chrysoprase ("Australian Jade")

The Kalgoorlie Nickel Project is characterised by widespread occurrences of the semi-precious gemstone chrysoprase. Chrysoprase is a rare, highly valued, nickel-bearing variety of chalcedony. Colour varies from apple green to deep green, and the highest quality material is translucent. Chrysoprase is commonly known by gemologists as "Australian jade" and is often used in jewellery as a substitute for jade due to its harder wearing characteristics. Chrysoprase is highly valued in east Asia notably China.

The occurrence of chrysoprase in shallow strongly weathered horizons throughout the KNP is directly analogous to the occurrence of opal in the opal fields of Coober Pedy (SA) and Lightning Ridge (NSW). As in the opal fields, chrysoprase has developed in veins within cracks and crevices in the clay-rich host rocks. In the KNP, the highest quality, deepest green chrysoprase shows a direct spatial relationship to the cobalt- and nickel-rich parts of the orebodies. Ardea has defined five advanced stage chrysoprase pit opportunities within the KNP.

Figure 5 - As mined chrysoprase, KNP. Indicative value $8-20 per kilogram. Forecasts of chrysoprase values are very difficult due to a lack of open markets, and confirm the desirability of securing a partnership with a downstream gemstone processor

Ardea estimates open-pit mining costs of approximately $6/t with run-of-mine chrysoprase valued at approximately $8-20/kg, and gem quality in excess of $20/kg (break-even grade 1kg/t of lower quality chrysoprase). Kalgoorlie chrysoprase mining has traditionally been labour-intensive and conducted by small scale tributers. Ardea has scoped a mechanised production model using ore sorting technology.

Ardea believes an east Asia jewellery producer would be a preferred chrysoprase development partner.

2. Lewis Ponds zinc-gold project – Updates

2.1. Bulk tonnage model for exploration and development

At Lewis Ponds, "*the mineralisation is accepted as Volcanogenic Massive Sulphide (VMS) type*" (Prospectus, page 46). The mineralisation as described is multiple lenses (1, 2 and 3) of massive stratabound base metal sulphides hosted within the Anson Formation pyritic siltstones. Exploration has historically been on the basis of a narrow high grade underground mining model, and has generated a mineral resource totaling 6.6Mt at 1.5g/t gold and 2.4% zinc[2] estimated at a 3% ZnEq cut-off grade (refer Prospectus Table 3.2 for full description of resource status).

As noted in the Prospectus (page 44), Lewis Ponds "*occurs on the Lewis Ponds Fault; a subsidiary fault to the Godolphin Fault. The region is well known for being prospective for a variety of deposit types, especially VMS deposits and orogenic gold deposits*."

Having now completed regional geological orientation programs in the Lewis Ponds area, it is clear that Lewis Ponds has a significant potential for orogenic gold deposits of the style of Regis Resources' McPhillamys deposit, located "*15km south along the Godolphin Fault*" from Lewis Ponds (Prospectus page 44).

As well as the traditional zinc-dominant VMS model, there is now a requirement to additionally evaluate Lewis Ponds as a bulk tonnage orogenic gold-base metal system, with the clear mining model being McPhillamys (resource 73Mt at 0.93g/t Au at 0.4g/t Au cut-off grade, Regis Resources, 31 March 2015).

[2] 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
Total Indicated	*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
Total Inferred	*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**

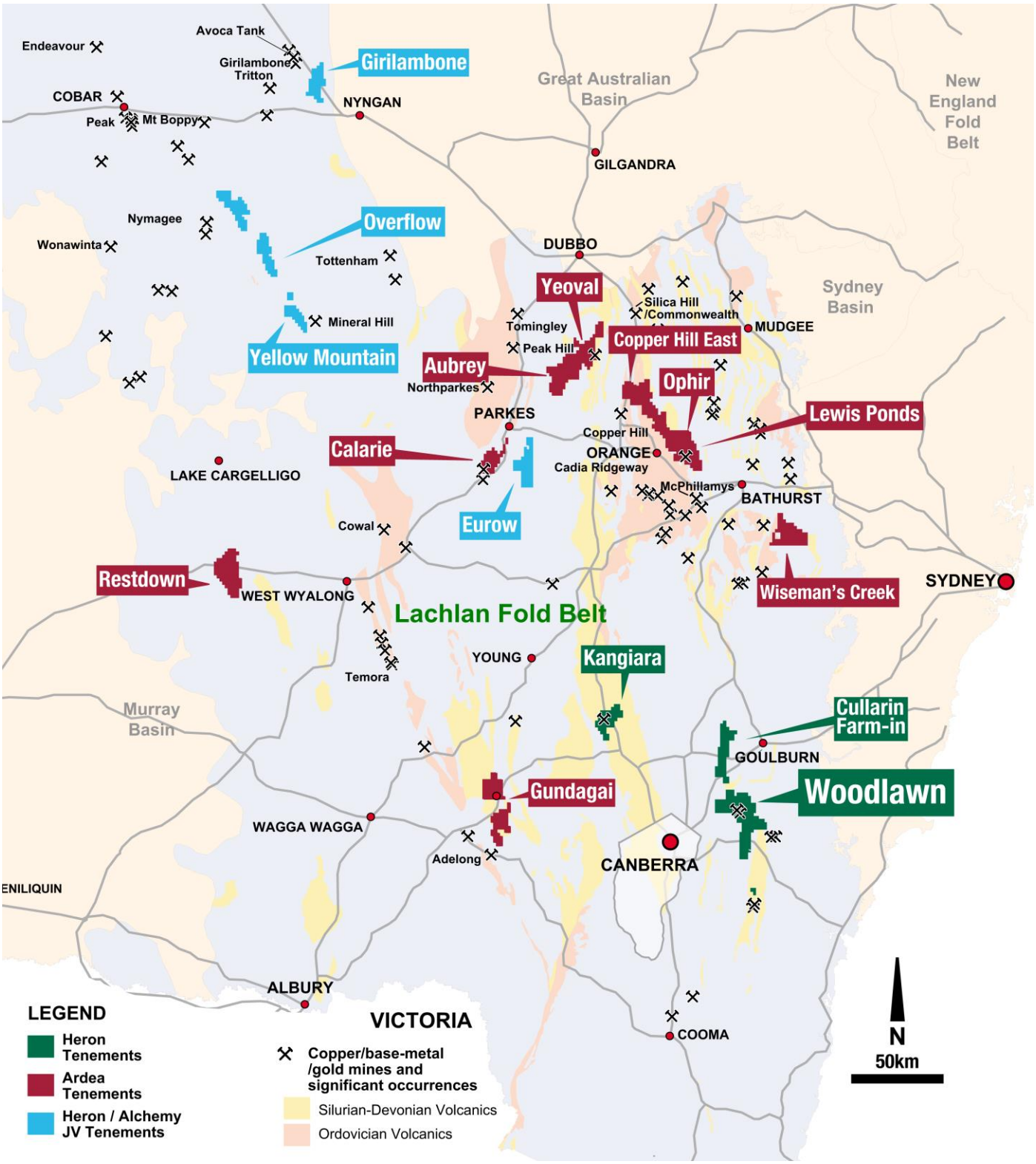

Figure 6 – Ardea NSW Projects showing Lewis Ponds, the recent applications of Yeoval-Mt Aubury immediately northwest of Copper Hill and Wisemans Creek immediately southeast of Lewis Ponds. The McPhillamys gold discovery is shown 20km SE from Lewis Ponds.

There are very clear geo-metallurgical associations at Lewis Ponds, possibly representing separate mineralising events, in order of abundance:

1. Dominant Zn-Pb-Ag-Au (stringer dominant but significant massive sulphide interbands).
2. Au-Ag only (which is poorly sampled, thus difficult to quantify as an orogenic gold system).
3. Minor Zn-Pb only.
4. Rare Cu only, always in the footwall.

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 able to carry sub-grade stringers, with typically 2-5 m internal waste bands.

The mining implications for Lewis Ponds are:

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

At Lewis Ponds, the bulk tonnage potential is confirmed in Prospectus Figure 3.3 (refer gold-equivalent calculation), with the following gold-equivalent intercepts on Section 940mN representative of the overall Lewis Ponds mineralised system.

- Western Lode
  - TLPRC-02 90m at 1.02g/t AuEq from 18m
  - SLP-7 27m at 1.59g/t AuEq from 62m
  - TLPD-02W 30m at 2.44g/t AuEq from 271m
- Central Lode
  - LPRC-32 54m at 1.72g/t AuEq from 26m
  - TLPD-40 37m at 0.92g/t AuEq from 199m
- Eastern Lode
  - TLPD-40 68m at 0.97g/t AuEq from 57m

Having now completed field reconnaissance, it is felt that Lewis Ponds is better evaluated as a base metal-gold stringer system. Table 2 summarises the more significant "bulk-tonnage" intercepts at Lewis Ponds. More detailed drill intercept data has been previously published by TriAusMin Limited in ASX announcements between 2002 to 2014 (Prospectus page 71) and these reports may be obtained from Ardea.

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 "McPhillamy-style" mineralised systems.

The Ardea intention is to drill a single orientated core hole on Sections 1000mN, 800mN, 600mN and 400mN, and all available core on these 200 metre spaced sections will be re-logged, re-photographed and assayed.

This program will act as a control to allow a resource update based on bulk-tonnage parameters. The known high grade zone extends from Section 300mN to Section 1500mN and ultimately all historic drill holes within this zone will require re-logging and assay. This requirement was not anticipated within the Prospectus work program and has arisen through field studies subsequent to November 2016 Prospectus lodgment.

2.2. Field exploration results

Whilst siting drill collars for the initial proposed Ardea drill program, a suite of samples was collected as a first pass in defining Lewis Ponds geo-metallurgical types (GeoMet study). At the old Lewis Ponds Main Zone and Tom's Zone main shafts, the main producers in the field, it was apparent that the dominant shaft mullock at both locations (600m apart along strike) is a distinctive white vuggy quartz-pyrite "sinter" (which appeared to have the appearance of epithermal style mineralization).

Table 3 – Lewis Ponds Rock chip sampling

Location	Sample No	Au (g/t)	Ag (g/t)	Zn (%)	Pb (%)	Cu (%)	As (ppm)	Sb (ppm)
Lewis Ponds Main Zone shaft	LP01300	**9.9**	**539**	0.05	1.6	0.30	1030	2650
Tom's Zone shaft	LP01301	**12.1**	**272**	0.09	2.7	0.01	90	74

The high-grade Au-Ag with anomalous As-Sb is consistent with epithermal style mineralisation, and the low base metal values are not indicative of a VMS setting at the shaft areas.

Base metal and gold production is unknown for the Lewis Ponds shaft. Toms produced 30,000 tonnes of pyrite ore for sulphuric acid production. It is puzzling that such high grade precious metal mineralisation remains at both locations as shaft mullock and was not treated in the historic operation.

This mineralisation style was not predicted within the Prospectus and is of significant economic potential. In particular, "Gold Stringer" is a geo-metallurgical type recognized in Ardea's work but not described in historic Lewis Ponds records.

Drill approval environmental submissions are being prepared, with Department of Resources and Energy approvals anticipated in time for February 2017 drilling.

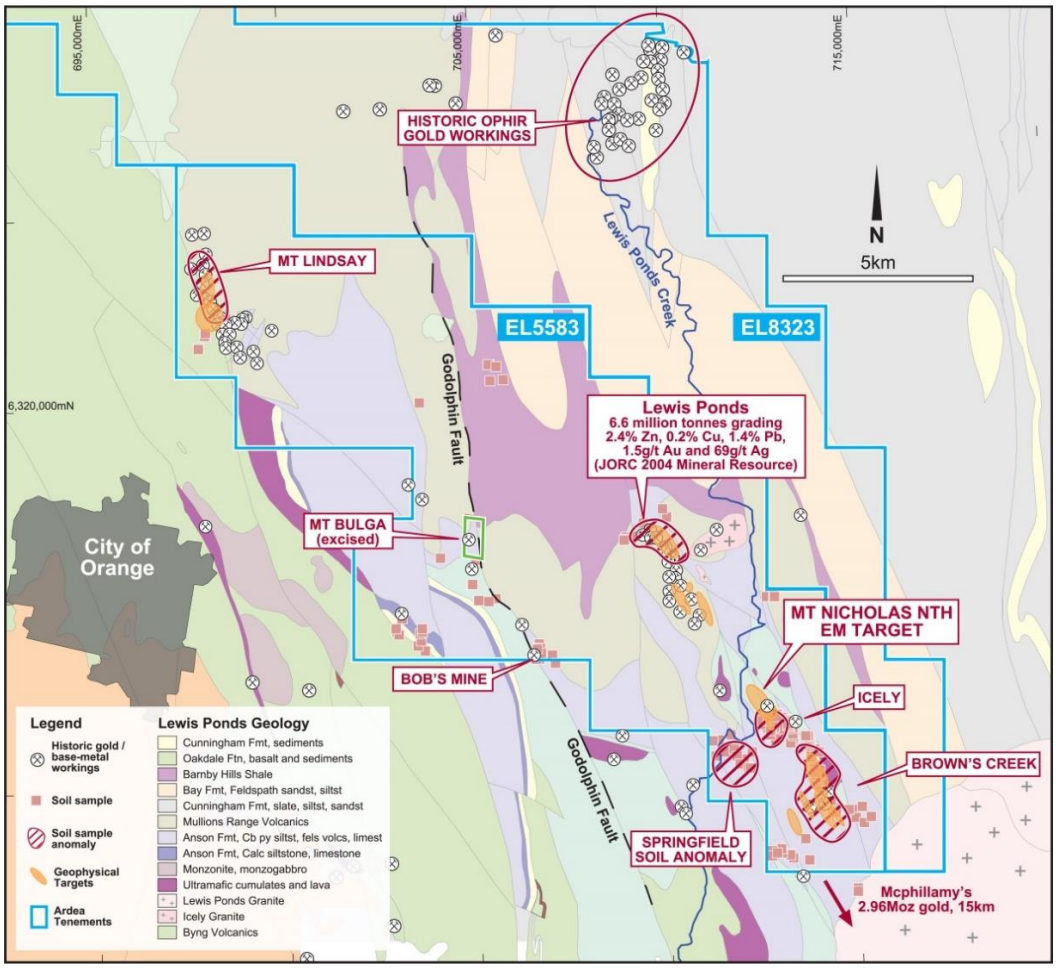

Figure 7 – Lewis Ponds, tenement and key prospects map

Table 2 Lewis Ponds – Polymetallic-Gold Stringer Zones, Significant Intercepts

Hole ID	East (local)	North (local)	From (m)	To (m)	Width (m)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	ZnEq[1]	AuEq[2]	m.ZnEq[3]	Geo Met
LPRC-6	-82	906	31	73	42	0.48	34	0.13	0.65	1.78	3.6	2.8	150.4	PS
LPRC-17	-68	830	5	68	63	0.70	18			1.04	2.2	1.7	138.8	PS
LPRC-21	-88	876	26	60	34	0.71	50			2.17	3.9	3.0	131.2	PS
LPRC-32	-105	940	26	80	54	0.49	34			1.54	2.7	2.1	145.2	PS
TLPD-03	**-47**	**1146**	**163**	**250**	**87**	**0.44**	**23**	**0.06**	**0.47**	**1.08**	**2.4**	**1.9**	**210.1**	PS
TLPD-04	**-61**	**1316**	**178**	**203**	**25**	**3.12**	**105**	**0.26**	**2.14**	**3.59**	**11.0**	**8.8**	**275.9**	PS
TLPD-06A	**21**	**1235**	**290**	**395**	**105**	**0.94**	**50**	**0.14**	**0.85**	**1.89**	**4.7**	**3.7**	**489.9**	PS
TLPD-08	-51	1456	161	408	247	0.08	8	0.02	0.11	0.27	0.6	0.5	151.1	PS
TLPD-09A	17	1205	248	370	122	0.37	9	0.04	0.22	0.47	1.3	1.0	157.1	PS
TLPD-12	**103**	**1312**	**419**	**559**	**140**	**1.53**	**52**	**0.10**	**1.45**	**2.20**	**6.1**	**4.8**	**850.4**	PS
TLPD-12W	103	1312	405	453	48	0.80	29	0.06	0.47	0.92	2.8	2.2	134.3	PS
TLPD-12W3	103	1312	398	506	108	0.29	13	0.05	0.28	0.64	1.5	1.2	159.3	PS
TLPD-15	**74**	**1361**	**433**	**528**	**95**	**0.77**	**27**	**0.04**	**0.40**	**0.69**	**2.4**	**2.0**	**230.6**	PS
TLPD-18	80	1240	333	436	103	0.28	11	0.03	0.35	0.51	1.3	1.1	137.4	PS
TLPD-19	97	1117	236	349	113	0.14	14	0.02	0.30	0.58	1.2	1.0	138.8	PS
TLPD-20	**72**	**1362**	**347**	**420**	**73**	**1.33**	**38**	**0.08**	**0.64**	**1.15**	**4.0**	**3.2**	**290.7**	PS
TLPD-21W	**74**	**1361**	**409**	**510**	**101**	**1.03**	**38**	**0.07**	**0.60**	**1.01**	**3.4**	**2.7**	**345.3**	PS
TLPD-30	69	1491	569	760	191	0.15	9	0.02	0.14	0.22	0.7	0.6	131.6	PS
TLPD-32	196	1386	484	558	74	0.37	24	0.06	0.49	0.87	2.1	1.7	158.9	PS
TLPD-34	3	1231	232	298	66	0.40	23	0.08	0.35	0.81	2.0	1.6	134.4	PS
TLPD-36	**-68**	**1311**	**194**	**220**	**26**	**2.35**	**162**	**0.17**	**2.07**	**3.20**	**10.4**	**8.4**	**270.3**	PS
TLPD-37	-108	1213	147	184	37	1.24	35	0.10	0.68	1.33	4.1	3.2	150.4	PS
TLPD-40	-4	938	56	245	189	0.05	5	0.05	0.21	0.54	0.9	0.7	172.5	PS
TLPD-41	86	759	165	262	97	0.30	10	0.06	0.38	0.78	1.7	1.3	162.5	PS
TLPD-46A	103	476	107	131	24	0.65	33	0.10	1.63	2.70	5.3	4.2	127.2	PS
TLPD-51A	**152**	**421**	**474**	**510**	**36**	**1.24**	**179**	**0.28**	**3.62**	**4.49**	**11.8**	**9.5**	**423.7**	PM
TLPD-51AW1	152	421	474	503	29	1.15	100	0.12	1.53	2.30	6.6	5.3	190.1	PM
TLPD51AW2	**152**	**421**	**321**	**399**	**78**	**0.22**	**22**	**0.05**	**0.89**	**1.44**	**2.7**	**2.2**	**213.2**	PS
TLPD-51AW3	152	421	388	402	14	1.10	95	0.14	4.33	5.87	11.9	9.4	166.2	PM
TLPD-53	**106**	**463**	**221**	**321**	**100**	**0.25**	**27**	**0.06**	**1.16**	**1.90**	**3.5**	**2.8**	**351.4**	PS
TLPD-62	145	353	287	394	107	0.16	14	0.03	0.32	0.68	1.4	1.1	145.5	PS
TLPDD04002	-13	1268	238	309	71	0.64	27	0.07	0.52	1.11	2.8	2.2	198.8	PS
TLPRC04010	**-68**	**999**	**82**	**174**	**92**	**0.20**	**25**	**0.10**	**0.54**	**1.38**	**2.6**	**2.0**	**236.1**	PS
TLPRC-02	-124	968	18	129	111	0.26	14	0.06	0.24	0.56	1.4	1.1	151.4	PS
TLPRC-04	-90	877	19	68	49	0.46	44	0.10	0.52	0.77	2.6	2.1	126.0	PS

Geo-Metallurgy (GeoMet) – PS Polymetallic Stringer, PM Polymetallic Massive, CS Copper Stringer (no intercepts are significant), GS Gold Stringer (no intercepts are significant)

	Zn	Cu	Pb	Au	Ag
Metal prices US$ (21 Dec 2016)	2617	5488	2177	1133	16
[1]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
[2]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

[3] **m.ZnEq** = intercept width x ZnEq value

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.

2.3. Exploration target

In consideration of the broad mineralised intercepts over a strike length of 1.15km between Section 350mN and Section1500mN, the initial Lewis Ponds Exploration Target is estimated at **15 - 25Mt at 2.2 - 3.7% ZnEq (1.2 -2.0g/t AuEq)**[3] (see Table 2 for values used in defining zinc and gold equivalents). The estimated breakeven mining grade is 1.6% ZnEq.

The potential quantity and grade is conceptual in nature, and there has been insufficient exploration based on the "bulk-tonnage" concept to estimate a mineral resource and it is uncertain if further exploration will result in the estimation of a "bulk tonnage" mineral resource.

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 under-estimated.

Funds raised under Ardea's initial public offer will be used, amongst other things, to test the exploration target through diamond drilling on 100 metre spaced sections over the next 12 months.

3. Exploration update

3.1. Western Australian projects

As exploration ramps up, Ardea intends to consolidate its substantial portfolio of exploration tenements in the Eastern Goldfields of Western Australia that are prospective for Archean-style nickel sulphide and gold mineralisation. The consolidation process has commenced.

3.1.1.Mt Zephyr Gold-Nickel Project - Ardea 100%

Mt Zephyr is a section of greenstone belt localised on the Celia Lineament and located 60km NNE of Leonora.

Referring to section 2(a) of the Supplementary Prospectus dated 18 November 2016, the objection to the grant of the main tenement has been withdrawn and accordingly the tenement has been recommended for grant. An archaeologist for assessing proposed Gale and Dunns New Find drill sites has been retained.

Gale gold prospect

Gale is a 273ppb Au soil anomaly which Aurora Gold[5] RAB drilled in the 1990s and intersected consistent >0.25g/t Au from surface to RAB refusal with intercepts of 6-18m at 0.5g/t Au and peak 6m at 1.3g/t Au. The anomaly is clearly a sub-horizontal geometry and not the narrow sub-vertical interpretation of previous explorers.

The Gale RAB gold anomaly at a 0.25g/t Au cut-off grade defines an open sub-horizontal sheet with 700m N-S strike, 100m E-W width with up to 18m thick (corresponding to RAB refusal depths).

A site visit confirmed the anomaly has not been followed up with previous RC drilling, apart from a very limited program at the extreme northwest corner of the soil anomaly. Old RAB chips mixed with aeolian sand located at the old RAB collars returned consistent 0.1-0.4g/t Au. RAB chips included silica-pyrite-sericite alteration, which have the appearance of a "late stage mineraliser". The geological expression of Gale is felt to be closely analogous to the Dacian Gold Jupiter syenite-hosted gold discovery, located 50km southeast along strike on the Celia Lineament.

---

[3] *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.*

[5] Aurora Gold has not consented to the use of the historical geological report reference in this announcement. The potential quantity and grade of any mineralisation is conceptual in nature, there has been insufficient exploration to estimate a mineral resource and it is uncertain if further exploration will result in the estimation of a mineral resource.

The RAB chip anomalism is supported by up to 1.4 g/t Au in an "unaltered" granite float composite south of the RAB-drilled area, and 1.2-1.5g/t Au in gossanous limonite-white quartz vein float to the east of the RAB-drilled area.

The observed sub-horizontal RAB litho-geochemistry is a primary protolith attribute, since very clear-cut sharp barren RAB assays occur at the east and west contacts (if solely a supergene blanket enrichment, diffuse contacts with wider and more gradual dispersion would be expected).

Ardea plans to follow up the Gale RAB anomaly with systematic RC drill traverses.

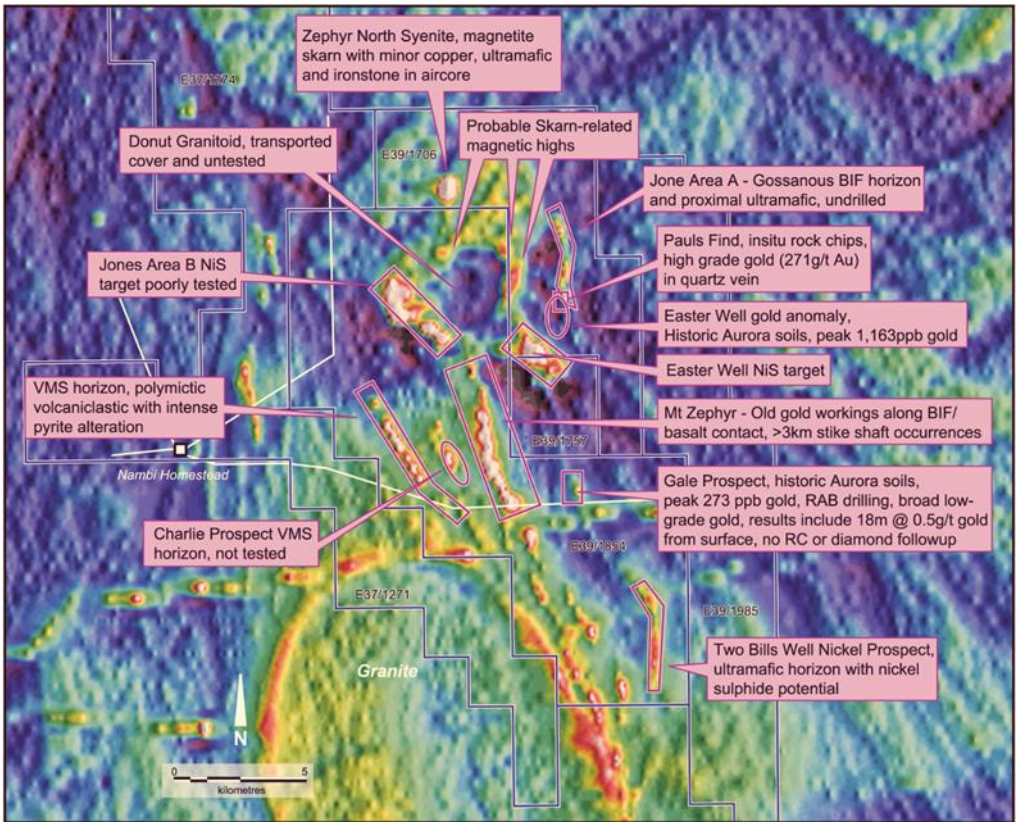

Figure 8 – Mt Zephyr, tenement and key prospects map

Dunns Line of gold prospects

The model for gold mineralisation has been refined with the recognition that historic workings are closely associated with NE trending cross-faults within the N-S trending main BIF horizon. Ardea's exploration model has evolved to be closely analogous to the Hill 50 "Boogardie Breaks" at Mt Magnet in Western Australia.

Rock chip and historic percussion drill chips along the target zone were sampled. It is planned to complete systematic soil auger geochemistry along the 4km of exposures along Dunns Line and extending into soil covered (altered) areas along strike of the main BIF.

Jones Area A and B nickel sulphide prospects

Olivine adcumulate komatiite channel facies have been identified by Ardea within a stratigraphic horizon which is felt to correlate with the Mt Windarra nickel sulphide mine stratigraphy. A sulphide facies BIF underlies the komatiite channel at Jones A, which is an excellent setting for "Silver Swan-style" nickel sulphide occurrences. Ironstone assays by Ardea at Jones Area B returned 0.3% Ni, confirming a prospective nickel sulphide setting.

Soil auger geochemistry is planned ahead of ground EM surveys.

There has been no previous RC drill testing of the Jones targets.

The Mt Zephyr E39/1854 application containing the Gale, Dunns and Jones prospects has been recommended for grant and consultant retained for a heritage survey.

3.1.2. Bardoc Tectonic Zone Gold Project - Ardea 100%

Ghost Rocks gold prospect

The Lady Isobel group of workings trend NNW over an area of 170m x 70m. The workings include a substantial underlay shaft dipping approximately 45^0 towards 120^0 (discordant to the overall trend of workings), with smaller subsidiary workings distributed over the full area on multiple structural orientations. Mullock consists of white quartz vein stockworks within an amphibolite host.

Random mullock sampling by Ardea on the main shaft assayed up to 5.3 g/t Au. There appears to be a deficiency of mullock when considering the depth of shafts, suggesting part of the excavated material has been milled.

Big Four gold prospect

The Big Four gold prospect is being evaluated as a potential open-pit. The main lode has excellent visual expression, being a subvertical quartz lode within clay-limonite altered dioritic porphyry. Visual grade control should be possible in any open-pit mining.

Reconnaissance in late 2016 was aimed at assessing additional exploration targets along strike, notably soil geochemical anomalies to the south.

The target concept at Big Four is an open-pit developed over the historic workings. Elsewhere in the Bardoc Tectonic Zone (BTZ), such occurrences were drilled and mined during the various "gold booms" of the 1990-2000s. With Heron's historical focus on the KNP nickel laterite within the BTZ tenure, gold exploration was minimal.

A proposal was received by Ardea from a local contractor to complete a trial pit at Big Four under a profit share arrangement. In view of open ore positions at Big Four, it was concluded that further exploration was required at Big Four before a transaction could be considered.

Various gold joint ventures were also proposed, but decisions will await completion of the Ardea IPO.

Figure 9 – Big Four workings, facing north, note white quartz reef in left foreground

4. Tenement acquisition update

Ardea has applied for several new tenements in New South Wales and Western Australia, subsequent to the Ardea Prospectus "Technical Assessment Report" and so these projects are not covered in the Prospectus. The following sections briefly describe the geology and prospectivity of these new project areas.

4.1. Lachlan Fold Belt, NSW

As part of the Ardea Prospectus preparation, a significant gold prospect has been generated for the Lewis Ponds project around the Godolphin Fault, a shallow east-dipping domain boundary structure separating the Ordovician Macquarie Arc in the west from the Silurian Hill End Trough in the east. From southeast to northwest, the structure hosts gold mining centres and targets from McPhillamys, Springfield, Mt Shorter, Calula and Copper Hill East. This Godolphin Fault trend is held within Ardea's tenement package, a 50km strike of continuous tenure abutting the McPhillamy's deposit in the south and the Commonwealth (Silica Hill) deposit in the north.

4.1.1. Yeoval Porphyry Copper-Gold-Molybdenum-Rhenium Project (ELA5368, recommended for grant) - Ardea 100%

Yeoval (ELA 5368) is located within the Macquarie Arc, 60km northeast of the Northparkes copper-gold mine. The tenement application covers an area of $138km^2$ and is intensely mineralised with more than 60 historic copper workings trending in a north-easterly direction, along a 20km strike. The project area encompasses the eastern section of the Early Devonian Yeoval Complex, with the major host being the Devonian-aged Naringla Granodiorite including gabbro-diorite and quartz

monzo-diorites. The co-magmatic Canowindra Volcanics of the Cudal Group occur to the east and south. The Ardea exploration target is a large tonnage porphyry copper-gold-molybdenum-rhenium system.

This report section contains exploration results and estimates reported by ASX-listed Augur Resources Limited on 17 September 2012 under the JORC Code 2004[7]. The information has not been updated to comply with the JORC Code 2012, and it is uncertain whether following evaluation or further exploration work that the estimate will be able to be reported in accordance with the JORC Code 2012.

The known Yeoval deposit comprises two main near-surface zones of bornite-chalcopyrite mineralisation. Initial drilling in 1972 produced best intercepts of 42.7m at 0.93% Cu and 18m at 0.8g/t Au. Drilling in 2008 by Augur Resources produced best intercepts of 90m at 0.90% Cu and 0.14g/t Au and 50m at 0.54% Cu and 0.48g/t Au. Augur Resources[9] reported on 17 September and 2 December 2008 an Inferred Mineral Resource in compliance with JORC 2004 guidelines and based on this, Augur Resources considered an Exploration Target of approximately 10Mt – 13Mt at grades of approximately 0.38% Cu and 0.14g/t Au as achievable.[10]

Table 4: Augur Resources Ltd announcement of drill hole YZ-04, 17 October 2012

Hole ID	Grid E (m)	Grid N (m)	EOH (m)	Declin / azimuth (°)	From (m)	To (m)	Width (m)	Cu (%)	Au (g/t)
YZ-04	654 137	6 377 651	385.9	-55/102.5	182.7	266.2	19.1	0.6	0.66

This table represents data from an Augur Resources announcement on 17 September 2012 to the ASX. The background details of the data have yet to be ascertained and application has been made by Ardea to the NSW Department regarding release of the relevant comprehensive data-set to open file. The above information is included to validate that the Yeoval deposit is significantly copper-gold endowed and so warrants further investigation. Copies of Augur's several Yeoval announcements are available by contacting Ardea.

4.1.2.Mt Aubrey Epithermal Gold-Silver Project (ELA5369, recommended for grant) - Ardea 100%

Mt Aubrey (ELA 5369) is located at the east contact of the Macquarie Arc Ordovician andesites some 30km northeast of Parkes and 30km southeast of Peak Hill.

The property was acquired by Ardea as an epithermal gold system hosted in Upper Silurian to Lower Devonian-aged Dulladerry Volcanics, a bimodal subaerial suite of quartz eye porphyry with rhyolitic ash-flow lapilli tuff, pyroclastic and breccia and amygdaloidal basalt. Gold mineralisation is typically hosted by 0.5-3m thick chalcedonic epithermal quartz veins and stockworks. All assays reported in Table 5 below are from open file reports and are not able to be verified by Ardea.

Although an epithermal-style of gold mineralisation, the Mt Aubrey mineralisation isn't refractory, with the published run-of-mine grade (3.73g/t Au) returning 95.7% recovery in historic metallurgical test work.

Gold mineralisation at the Mt Aubrey vein system remains open at depth and along strike, as the historical drilling done by BHP Gold was only designed to define shallow oxide resources. The Mount Aubrey deposit was mined by BHP Gold in 1990 and 1991 as shallow open-pit satellite operations to the Parkes Gold Mine. It is estimated that up to 120,000 tonnes of ore at 3.3g/t Au was trucked to Parkes for processing. As part of the operating agreement with the landowner all three of the small open-pits were back filled.

It is presumed that the shallower of the drill intercepts as reported above were mined in the BHP open-pits. Historic pit pick-ups will be sought to quantify the status ore positions beneath the historic pit floors.

[7] Augur Resources has not consented to the use of the historical geological report reference in this announcement. This section contains exploration results and estimates reported by Augur Resources Limited on 17 September 2012 under the JORC Code 2004. The information has not been updated to comply with the JORC Code 2012, and it is uncertain whether following evaluation and or further exploration work that the estimate will be able to be reported in accordance with the JORC Code 2012.

[10] 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.

[10] 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.

In 2007, Aurelia Metals Limited[14] completed three diamond core holes beneath the former Mt Aubrey Gold Mine for a total of 916.6m. The holes were designed to test the down dip extension of high grade epithermal quartz veining mined in the Mt Aubrey open-pits. Holes MAD002 and MAD003 each intersected broad zones of epithermal quartz-carbonate vein stockworks associated with epidote, sericite and bleaching alteration and minor sulphides.

Table 5 Mt Aubrey historic RC drill results.

Hole ID	Grid E (m)	Grid N (m)	EOH (m)	Declin / azimuth (°)	From (m)	To (m)	Width (m)	Au (g/t)
MAR016	5161	10136	71	-60/018	38	44	6	6.65
MAR025	5201	10135	56	-60/024	30	32	2	6.04
MAR030	5291	10066	61	-60/018	45	49	4	2.17
					52	59	7	1.33
MAR034	5743	10111	61	-60/355	49	55	6	6.21
MAR038	5774	10142	56	-60/355	6	11	5	3.18
					16	25	9	1.26
MAR046	5161	10116	121	-60/018	64	73	9	4.12
MAR051	4881	10249	76	-60/018	26	29	3	7.99
MAR065	5201	10145	25	-60/018	14	17	3	7.68
MAR066	5739	10152	51	-69/175	4	11	7	3.10
					24	27	3	1.85
					32	40	8	1.85
MAR070	5140	10160	69	-60/017	15	27	7	17.78
MAR072	5180	10151	33	-60/019	6	16	10	8.52
MAR077	4923	10251	33	-60/018	5	10	5	8.10
MAR079	5694	10120	55	-60/355	6	14	8	2.87
MAR083	5821	10157	51	-60/019	23	24	1	6.10
					37	48	11	2.95
MAR084	5821	10172	51	-60/018	17	20	3	4.57
MAR085	5862	10179	75	-60/018	12	16	5	3.97
MAR086	5861	10160	75	-60/020	18	27	9	2.45
MAR089	5662	10173	60	-60/018	18	21	3	5.66

It is yet to be determined through historic pit surveys which of these intercepts have been extracted in previous mining operations. Anecdotal reporting suggests very shallow open-pits, being some 20-30m deep as determined by stripping ratios. Their inclusion in this Report is solely to demonstrate that the Mt Aubrey system is gold-endowed and warrants further evaluation.

At the **Mt Aubrey South prospect** drill hole MAD004 intersected a broad zone hosting abundant mineralised crustiform textured quartz-carbonate-pyrite veining with a gold intersection of 88m at 0.22g/t Au from 2m. The gold mineralisation in MAD004 represents an un-mined new gold-bearing structure to the south of the main Mt Aubrey vein system.

The **Blue Hills prospect** is an area of outcropping, gold bearing veins and minor workings 2km along strike to the northwest of Mount Aubrey. Rock chip samples of up to 13.4g/t Au have been recorded and two costeans returned results of 2m at 1.35g/t Au and 6.5m at 1.40g/t Au. The area between Mt Aubrey and Blue Hills is mainly covered by modern alluvium but is also thought to contain quartz veining.

The **Emu Swamp prospect** is located 3km to the east of Mt Aubrey and contains outcropping veining with rock chip gold values to 3.3 g/t Au associated with pyritic alteration. The 6km Blue Hills – Mt Aubrey – Emu Swamp trend represents a significant epithermal vein system target.

Mt Aubrey along with the adjoining Yeoval tenure is interpreted by Ardea as the manifestation of a major NE-trending zoned porphyry copper-gold-molybdenum-rhenium to epithermal gold-silver intrusive centre.

4.1.3. Wiseman's Creek Gold-Copper Project (ELA5378, recommended for grant) - Ardea 100%

The **Black Bullock prospect** is located at Wiseman's Creek, 35km southeast of Bathurst, NSW. Epithermal gold mineralisation within the tenure is hosted largely within Late-Silurian – Early Devonian-aged slates, shales and sediments of

[14] Aurelia Metals Limited has not consented to the use of the historical geological report reference in this announcement

the Kildrummie and Campbell's Groups, with geology through the centre of the tenure comprising the andesitic Ordovician-aged Rockley Volcanics.

Mineralisation has been reported as predominantly associated with silicified zones with epithermal textures such as open-space filling in quartz veins, quartz vein breccias, chalcedonic silicification and colloform banding. The units strike NNW and dip steeply eastwards.

The Wiseman's Creek area was held as EL2098 by Windsor Resources[16] during the 1980s and was part of a JV arrangement, which saw a total of 80 RC and three diamond holes drilled between the years 1985 - 1989. In Windsor's 1988 Annual Operations report, the major historic gold mine production was noted as being from Black Bullock Mine, reporting production of some 40,000oz of silver and 2,098oz of gold from 4,700 tonnes of ore (at an average grade of 14g/t gold). Three main areas of interest were identified, some within State Forest and some on freehold land.

At the gold prices of the day, the deposit was not considered economic, however gold intercepts at shallow depths were reported that warrant further investigation. Table 6 above lists only some of the more significant gold intercepts recorded in the Windsor Annual Report. An additional 23 RC and 3 diamond drill holes (not listed in Table 6) contained significant intercepts at or above 0.5g/t Au. In 2006 Central West Gold[17] completed an IP survey and drilled follow up RC holes based on modelling of the earlier historic drilling and which reportedly contained a best result of 3m at 0.36g/t Au from 9m.

Table 6: Black Bullock prospect historic drill results

Hole ID	Grid E (m)	Grid N (m)	EOH (m)	Declin / azimuth (°)	From (m)	To (m)	Width (m)	Au (g/t)
PWC-11	2100	1160	93	-60/270	0	16	16	0.62
PWC-14	2789	2200	99	-60/270	16	50	34	1.00
incl.					30	44	14	2.25
incl.					36	42	6	3.60
incl.					60	66	6	0.64
PWC-17	2673.5	2174	87	-60/090	10	30	20	0.22
PWC-18	2482	2070	105	-60/270	8	34	26	0.20
PWC-19	2437	2170	105	-60/270	6	16	10	0.25
Incl.					22	28	6	0.48
PWC-21	2604	1276	104	-60/270	74	100	26	1.56
incl.					74	86	12	3.10
PWC-25	2597	1387	82	-60/175	60	76	16	0.48
incl.					60	62	2	1.04
PWC-28	2900	2128	82	-60/090	66	82	16	0.3
PWC-29	1950	1990	51	-60/090	6	18	12	0.6
PWC-33	2650	1269	45	-60/270	16	28	12	1.5
PWC-34	2755	2195	75	-60/270	30	42	12	0.7

The above table represents historic data from GS1988_277 Windsor Resources report, recorded as a statutory requirement, for the NSW government department. The quality of the data has yet to be ascertained as historic QAQC work was poorly reported, but is included to establish that the Wiseman's Creek prospect is gold-endowed and warrants further investigation.

Duckmaloi Tungsten prospect

From 2012 to 2014 part of the tenement area now held by Ardea was held by Resmetco Ltd[20] who explored for tungsten within a prospect known as "Duckmaloi" hosted within skarn style mineralisation. The prospect itself was estimated in an open file report to have an Exploration Target[1] of approximately 375,000 tonnes at 0.2% WO_3 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.

The existence of this deposit style as well as the nearby epithermal occurrences does suggest evidence for a larger mineralizing system and also warrants further investigation.

[16] *Windsor Resources has not consented to the use of the historical geological report reference in this announcement.*
[17] *Central West Gold has not consented to the use of the historical geological report reference in this announcement.*
[20] *Resmetco Ltd has not consented to the use of the historical geological report reference in this announcement.*

4.1.4. Status of NSW Applications

The Wisemans Creek, Yeoval and Mt Aubury applications have been recommended for grant.

4.2. Eastern Goldfields, WA

4.2.1. Bedonia West- Ardea 100%

E63/1827 and E63/1828 covering 358km^2 complete Ardea's coverage of the Jimberlana Dyke west of the existing Bedonia prospect. Recent Ardea work has confirmed the anomalous Ni-Cu-PGM soil auger geochemistry previously identified by Heron is coincident with a specific intrusive phase of the Jimberlana Dyke lopolith. The new applications consolidate Ardea's coverage of the favourable Proterozoic Dyke lopolith geological setting.

4.2.2. Perrinvale- Ardea 100%

E29/1006 covers 175km^2 along the eastern strike continuation of the "Cathedrals" Proterozoic Dyke complex. The application was predicated on Ardea's recognition of lopolith mineralisation controls at its Bedonia Project, and aims to secure similarly endowed lopolith geological settings, as well as the northern strike continuation of the domain boundary Ida Fault hosting the Mt Ida gold mining centre to the immediate south.

4.2.3. Status of WA Applications

The WA applications at Perrinvale, Bedonia West and Jimberlana are proceeding towards grant with no objections pending.

5. Corporate update – Ardea share applications

A copy of the Prospectus and First and Second Supplementary Prospectus is available at www.ardearesources.com.au. Anyone considering investing should read the Prospectuses in their entirety before deciding whether to do so. Applications can only be made via the application form which is in the Prospectus.

Please contact Ardea's Company Secretary, Mr Sam Middlemas, on +61 8 6500 9200 if a hard-copy of the Prospectus is required.

About Heron Resources Limited:

Heron's project focus is commissioning the high-grade Woodlawn Zinc-Copper Project located 250km southwest of Sydney, New South Wales. In addition, the Company holds a number of other high quality base metal exploration properties located in the immediate Woodlawn area of the Lachlan Fold Belt, New South Wales.

With Heron's focus on Woodlawn and the securing of finance for commissioning the operation, the spin-off of the non-Woodlawn assets into Ardea was commenced in August 2016. It is anticipated that Ardea will commence trading on ASX in February 2017.

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 of Ardea Resources Limited
Tel +61 8 6500 9200

Australia:
Mr Wayne Taylor
Managing Director and Chief Executive Officer of Heron Resources
Tel: +61 2 9119 8111 or +61 8 6500 9200
Email: heron@heronresources.com.au

Jon Snowball
FTI Consulting
+61 2 8298 6100
jon.snowball@fticonsulting.com

Canada:
Tel: +1 905 727 8688 (Toronto)

Polished chrysoprase cabochon, KNP

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);*
2. *Kalgoorlie Nickel Project on 21 October 2013 and 31 July 2014, 27 October 2016, 2016 Heron Annual Report and 6 January 2017;*
3. *Big Four-Goongarrie on 13 March 2012, 26 June 2012 and 24 July 2012.*
4. *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, exploration results for Lewis Ponds, Gundagai, Mt Zephyr, BTZ and Kalgoorlie East Tenements, and forward programs contained in this announcement are based on, and fairly represents, information reviewed by Mr Ian Buchhorn, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Buchhorn is a full-time employee of Heron 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'. Mr Buchhorn has reviewed the Heron 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. Mr Buchhorn states that the historical exploration results and estimates are an accurate representation of available data and studies for the Yeoval, Mt Aubury and Wiseman's Creek projects and are reflect Mr Buchhorn's on-the-ground knowledge of the regional project areas.

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 full-time employee of Heron 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 Mr Ian Buchhorn, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Buchhorn is a full-time employee of Heron 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'. Mr Buchhorn 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 and Canadian 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 Canada, 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.

JORC Code, 2012 Edition – Table 1 (Mt Zephyr, Mt Aubury, Yeoval, Wiseman's Creek)

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. •Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg '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 explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	• Mt Zephyr, Nord Resources (Pacific) Pty Ltd, 1982, open hole percussion drilling, decline 60 degrees west, only sample BIF, panned to detect gold, and if gold noted, submitted to Analabs, accordingly very poor assay coverage, assay technique not known • Mt Zephyr, Aurora Gold Limited, 1993, RAB drilling, decline 60 degrees west, 6m composites (two rod lengths), assay by AMDEL, 0.01g/t Au detection limit, QAQC replicate assay for each sample, acceptable precision • Mt Zephyr, Newcrest Mining Limited, 2008, assay by Genalysis, 50gm FA with AAS finish, 0.01g/t Au detection limit, presume QAQC but not detailed in available report, 1m RC chips
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Refer above, insufficient detail in historic GSWA-held reports, reputable international explorer using standard industry practice of the time
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. •Measures taken to maximise sample recovery and ensure representative nature of the samples. •Whether a relationship exists between sample recovery and grade and whether	• Not known

Criteria	JORC Code explanation	Commentary
	sample bias may have occurred due to preferential loss/gain of fine/coarse material.	
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. •Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. •The total length and percentage of the relevant intersections logged.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Geotechnical logging most unlikely
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. •If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. •For all sample types, the nature, quality and appropriateness of the sample preparation technique. •Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. •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. •Whether sample sizes are appropriate to the grain size of the material being sampled.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Subsampling most unlikely
Quality of assay data and laboratory tests	•The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. •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. •Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • QAQC likely for Newcrest phase of exploration, but not known.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	•The verification of significant intersections by either independent or alternative company personnel. •The use of twinned holes. •Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. •Discuss any adjustment to assay data.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Verification likely for Newcrest phase of exploration, but not known.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. •Specification of the grid system used. •Quality and adequacy of topographic control.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Local grids used, require field validation but minimal drill hole artefacts remain • Georeferenced using surveyed gold mining lease corner pegs.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. •Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. •Whether sample compositing has been applied.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Insufficient sample points in previous work to establish continuity, Mt Zephyr, Nord and Aurora work not appropriate for Mineral Resource estimates • Essentially “wildcat” exploration holes, not suited to resource estimation.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. •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.	• Not known
Sample security	•The measures taken to ensure sample security.	• Not known
Audits or reviews	•The results of any audits or reviews of sampling techniques and data.	• Not known

Section 2 Reporting of Exploration Results - (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	• Heron granted Exploration Licence tenure and Ardea EL applications
	•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.	• No known impediments
Exploration done by other parties	•Acknowledgment and appraisal of exploration by other parties.	• Refer above, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time • Desk top appraisal, requires re-drill by Ardea
Geology	•Deposit type, geological setting and style of mineralisation.	• Mt Zephyr, Syenite hosted gold associated with Celia Lineament, northwest continuation of Red October-Sunrise Dam-Wallaby-Jupiter trend, granitoid intrusives defined by circular magnetic anomalies (as per Mt Zephyr magnetic feature) • Lewis Ponds, Mt Phillamy-style orogenic base metals-gold possibly overprinting VMS enriched meta-sedimentary succession. • Mt Aubury-Yeoval, upper epithermal system with a Silurian-Devonian intrusive system.
Drill hole Information	•A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length. •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	• Refer above, local grids used, GIS registered but accuracy not quantified, insufficient detail in historic reports, reputable international explorer using standard industry practice of the time

Criteria	JORC Code explanation	Commentary
	Competent Person should clearly explain why this is the case.	
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. •Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Not done in historic data
Relationship between mineralisation widths and intercept lengths	•These relationships are particularly important in the reporting of Exploration Results. •If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. •If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	• Not applicable
Diagrams	•Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	• Not available
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Not available
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test	• Not available

Criteria	JORC Code explanation	Commentary
	results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). •Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Mt Zephyr, ground magnetics to define syenite intrusives and contacts, gravity survey to define structures, aircore drill to quantify host geology, then RC sections for mineralisation continuity (200x40m initial pattern). • Mt Aubury-Yeoval and Wiseman's Creek, systematic multi-element soil auger geochemistry to rank drill targets. • Perrinvale, Jimberlana, Bedonia West, multi-element soil auger geochemistry to define ground EM targets, RC drill all conductors.

JORC Code, 2012 Edition – Table 1 (Lewis Ponds Exploration Target)

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. •Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg '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 explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Refer reporting in Bob Cotton JORC 2004 and JORC 2012 reporting Refer ASX announcements as follows: • Ardea Resources Prospectus dated 9 November 2016, pages 9-10, 43-48, 67, 83 (JORC 2012 Resource Statement), 95-106 (Tenements). • Heron Annual Report 2016 dated 24 August 2016, section 10.6. • Heron Quarterly Report September 2016 dated 31 October 2016. Both Reverse Circulation Percussion drilling (RCP) and Diamond core drilling (DD) have contributed to the Lewis Ponds resource database. RCP totals 2,190 samples representing 2,566 metres of mineralisation drilling, and DD totals 4,832 samples for 5,048 metres. Total drilling to the date of the Bob Cotton September 2016 report was 54,516 metres comprising: • 117 primary diamond holes for 41,776 metres • 32 wedged diamond holes for 7,159 metres • 7 diamond tails to RCP holes for 159 metres • 62 RCP holes for 5,421 metres • 4 Open Holes (Percussion/Rotary drilling) for 276 metres • The last hole drilled was the diamond tail to TLPRC04010. • The Resource is based on sub-surface samples obtained by the above drilling. Earliest drilling was successful testing of geochemical and/or geophysical anomalism adjacent to historic small mining. This progressed into drilling on grid sections to test the discovered mineralisation at intervals appropriate for good confidence in continuity. The earliest was diamond drilling by Amax commencing 25 October, 1971. The Longyear 44 rig used was top industry standard for the

Criteria	JORC Code explanation	Commentary
		time. • Similarly, the first single shot gyro instruments were being used for downhole surveys. Handheld GPS became practical for sub-5m accuracy collar positioning in year 2000 (removal of Selective Availability). The most recent programs after and including 2004 used Trimble GPS for collar positioning. The first hole to have (Differential) GPS collar positioning was TLPD-55 which commenced 3 Nov1995. About 40 percent of the total metreage drilled was GPS located.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• HQ and NQ core, recoveries recorded, sampling by half core predominantly, focus for historic cut selection mainly dependent upon visible base metal sulphide-bearing drill core. • Two main types of drilling have been used since the first drill testing at Lewis Ponds in 1971: • Reverse Circulation Percussion (RCP) and Diamond Core Drilling (DD). Open hole techniques including Tricone, Blade and Hammer have been used to pre-collar holes through overburden and barren ground to place casing to facilitate deeper RC and/or DD. • Prior to 1980, HQ core size was used only to seat the casing to enable NQ coring to start. Most of these holes at some stage reduced to BQ core size when rotation became an issue with NQ. In DD programs subsequent to 1980 HQ core size was used to refusal then reduction to NQ and possibly BQ. After 1990 triple tube barrels were used to good effect minimising core loss, and reduction to NQ became the norm with no further use of BQ coring. • Diamond tails, as distinct from pre-collars, were used to extend RCP holes in the 2004 programs. These totalled 152 m in five holes. • No use of oriented core was made until 2004 where drillers marks on core assisted determination of vergence in folding adjacent to mineralisation

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. •Measures taken to maximise sample recovery and ensure representative nature of the samples. •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.	• Core recoveries at Lewis Ponds have not in every case been recorded on a sample by sample basis, however a good recovery database is provided by recoveries recorded in the Geological Logs. These logs show that significant core loss is a comparatively rare event once the hole enters competent rock, and in most cases is due to local faulting and/or shearing. Recovery of core has been measured by restoring the core, fitting individual pieces end to end where possible. Lengths of the assembled core were measured to compare with the intervals between drillers' downhole markers. The ratio between the measured length and the marker interval length was recorded as core recovery percent. Percussion chip samples, at least in the more recent RC drilling, were weighed and the weight recorded. Any noticeably low weight recorded became a recovery factor in the sampling record.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. •Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. •The total length and percentage of the relevant intersections logged.	• Logging of core and chips has been maintained throughout the Lewis Ponds programs. In the 1992 - 2004 programs, logs of downhole geology were generally prepared on paper proformas then entered digitally. In most cases scans of the hand logs have been made as well as the digital logs. • The first objective has been to enable the lithology, alteration and mineralisation, and oxidation records to appear on screen together with grades for geological interpretive purposes. This has taken place to the standard required for mineral resource estimation and subsequent studies. The geological logging done, together with available photography, is considered to be adequate for mineral resource studies. • Where needed terms such as 'massive', semi-massive' 'stringer' or 'disseminated' have been used to describe the aspect of the metal sulphides. These qualitative terms are expected to be reflected in the assay results for the same intervals. This applies to logging both core and chips. Visual estimation of sulphide percentages has not been systematic throughout the

Criteria	JORC Code explanation	Commentary
		drilling. • Core photography has been carried out over the mineralised intervals in core obtained between TLPD33 and TLPD72 (Oct 1994 to April 1997) and the mineralised section of TLPD12. This represents approximately 50% of the total drilling, thus there is insufficient core photography to be a proxy for geotechnical logging in the event of a scoping study for Lewis Ponds. • Minimal geotechnical logging, due to lack of orientated drill core.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. •If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. •For all sample types, the nature, quality and appropriateness of the sample preparation technique. •Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. •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. •Whether sample sizes are appropriate to the grain size of the material being sampled.	• Insufficient detail in pre-1992 historic reports, reputable international explorer using standard industry practice of the time. • With both RCP and DD drill sampling, a replicate sample was taken every 20m for quality control and submitted without special identification with other samples to the laboratory. It was rare for replicate sample assays, when compared with the original, to fall outside normal variability within the sampling/assay process. On some occasions a triplicate sample was taken for an umpire Au assay. • The Lewis Ponds sulphides, whether massive, stringer or disseminated, have not raised problems of representivity with the RCP and DD sampling employed. • Gold is a significant element of the Lewis Ponds metal value and could have representivity issues. Preliminary metallurgical study indicates that gold is largely refractory within sulphides. "Nugget" gold is therefore unlikely to be a problem in fresh rock at Lewis Ponds with attendant representivity issues. This may have to be reviewed if mineralisation in the oxide zone becomes a drilling target.
Quality of assay data and laboratory tests	•The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. •For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model,	• Refer above, insufficient detail in pre-1992 historic reports, reputable international explorer using standard industry practice of the time • QC Certificates of Analysis are held from the laboratory in respect of regular internal check assays of Standards, Blanks and Internal Duplicates from pulps of the

Criteria	JORC Code explanation	Commentary
	reading times, calibrations factors applied and their derivation, etc. •Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	original samples. • Random checks give evidence of satisfactory procedures. Accuracy and Precision stats could be run for a marginally higher level of comfort.
Verification of sampling and assaying	•The verification of significant intersections by either independent or alternative company personnel. •The use of twinned holes. •Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. •Discuss any adjustment to assay data.	• Refer above, insufficient detail in historic pre-1992 reports, reputable international explorer using standard industry practice of the time • All significant intersections (TRO, TOA and prior) have been independently verified by a senior consultant to the extent of re-logging to become familiar with the detailed assaying characteristics. This was carried out in two phases and a full report has been presented describing each phase
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. •Specification of the grid system used. •Quality and adequacy of topographic control.	• Refer above, insufficient detail in pre-1992 historic reports, reputable international explorer using standard industry practice of the time • Local grids used, require field validation but minimal drill hole artefacts remain • Collar positions have been set in using a Trimble GPS instrument with a sub-5 metre level of accuracy. Collars of TOA and TRO holes have been picked up using a DGPS Sub-1 metre instrument since mid-1995. Prior to that, holes may have been sited relative to a pegged tape and compass grid with significant inaccuracies. However in 1995 all previous hole collars appear to have been identified and surveyed by DGPS. No tape and compass coordinates are used to locate any item of drill data in the current database. In 2004 limited checks were made of surviving early hole collars (pre-1995) using DGPS with satisfactory results when compared with database. • The Lewis Ponds grid was established in 1992 using a local grid north reference of 315 degrees magnetic. The Grid north orientation of 315 degrees (Mag) equates to 329 degrees MGA.
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	• Where drilling density is greatest the Lewis Ponds mineralisation is seen to consist of

Criteria	JORC Code explanation	Commentary
	•Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. •Whether sample compositing has been applied.	simple lenses at all downhole Zinc Equivalent (ZnEq) cut-offs up to 8 to 9 % ZnEq. • Cross sections are 20 m apart. On any one cross section three or more drill holes are sufficient to characterise the lenses. The drill intersections are usually about 50 to 80m apart down dip. • For the thickest part of the Main Lenses this criterion applies on six contiguous cross sections, that is 120m of strike length. From this base, at the low 1% ZnEq cut-off, one or two intersections per cross section are sufficient to carry the lens interpretation a further 40m north and 300m up plunge to the south. At this point there is a second interval of 100m strike length near surface with 3 intercepts per cross section. At the plus 7% ZnEq cut-off, the lenses are limited to the 120m interval. It is considered that this data distribution permits estimation of resources in the Indicated category. • For the Exploration Target Stringer interpretations, Lens interpretation has used Grade Composites based on (a) a 1% ZnEq downhole cut-off, effectively quantifying stringer and disseminated mineralisation, and (b) a 7% ZnEq downhole cut-off characterising semi-massive and massive sulphide mineralisation.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. •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.	• Generally orthogonal when using “Stringer” interpretations.
Sample security	•The measures taken to ensure sample security.	• Perhaps the best security against potential sample tampering for a situation such as Lewis Ponds has been not to have to store the samples. Site processing of samples was by Company employees and when complete samples were less than an hour from the laboratory by company vehicle. Satisfactory internal security was

Criteria	JORC Code explanation	Commentary
		maintained routinely by the Laboratory.
Audits or reviews	•The results of any audits or reviews of sampling techniques and data.	• Consultants completed a total review and audit of the Lewis Ponds database following the public float of Tri Origin Minerals Limited on 9 Jan 2004. Areas were: Grids and Collars, Downhole surveys, Assays, Geology. Apart from this Review, previous resource estimates were studied for factors likely to introduce bias, up or down. • Ardea is currently assembling available Lewis Ponds hard copy reports archived at the Woodlawn mine site.

Section 2 Reporting of Exploration Results - (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	• TriAusMin (Heron) granted Exploration Licence tenure and Ardea EL applications. • The project is on partly cleared private land, most of which is owned by Ardea. Access agreements are in place for the private land surrounding the main deposit area. There are no national parks, reserves or heritage sites affecting the project area. At this stage security can only be enhanced by continued engagement with stakeholders and maintaining profile in the City of Orange in particular
	•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.	• No known impediments
Exploration done by other parties	•Acknowledgment and appraisal of exploration by other parties.	• Refer Ardea Prospectus • Amax Exploration Australia Inc entered a Joint Venture Agreement which Metals Investments Holdings NL and A.I. Consolidated Gold Pty Ltd held with the owner of the title ,Wentworth Mining Corporation Pty Ltd, over ground which included the Lewis Ponds deposit. Amax drilled four DD holes totalling 875 meters in 1971-1972 which contributed four intercepts above 7% ZnE to this Resource estimate. The only drilling done prior to Amax was by Cominco in 1969. Three holes were

Criteria	JORC Code explanation	Commentary
		abandoned after entering disused workings at the Spicers Mine location, Lewis Ponds. • Subsequent drilling by Aquitaine Australia Minerals Pty Ltd in 1975-1976 was under joint venture agreement with Amax and Shell Company of Australia. 10 (BOA series) holes were drilled totalling 2102 metres, which also contributed four intercepts. • Between 1979 and 1981 a further 7 holes totalling 2274 metres (SLP series) were drilled by Shell and Aquitaine under the JV agreement with Amax. This drilling contributed five intercepts including one twinned in a wedge hole. • In total, other party exploration contributed 15 percent of the database which now determines the geometry of potentially ore grade mineralisation for this Resource estimate. • In 1987-1988, the Homestake subsidiary Sabminco drilled 33 RCP holes totalling 2300 metres (LPRC series). This drilling contributed 21 intercepts of the 230 used to interpret the Resource. • Prior to the acquisition of TriAusMin by Heron in August 2014, Tri Origin Australia drilled 42,232 metres in 124 holes, followed by Tri Origin Minerals with 3,812 metres in 30 holes.
Geology	•Deposit type, geological setting and style of mineralisation.	• Refer Ardea Prospectus. • Lewis Ponds, Mt Phillamy-style orogenic base metals-gold possibly overprinting VMS enriched meta-sedimentary succession..
Drill hole Information	•A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length. •If the exclusion of this information is justified on the basis that the information is not	• The database now carries 211 holes totalling 54516 metres.

Criteria	JORC Code explanation	Commentary
	Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. •Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	Massive mineralization model: • Grade compositing was by averages above cutoff weighted for sample length. The maximum total inclusion of subgrade was 5m and the maximum consecutive inclusion of subgrade was 3m. • Two sets of composites were prepared, one based on downhole cut-off of 1 percent Zinc Equivalent (% ZnEq) and the other based on 7% ZnEq (potentially economic). No cutting of high grades took place at the aggregation stage because grade composites were used only for the interpretation of the geometry of the mineralisation on cross section and in plan, prior to wireframing, not for Resource estimation. Stringer Exploration Target mineralization model: • There was no limitation on internal waste, since the objective was to generate mining shapes for a low grade open-pit bulk mining operation. • The historic Lewis Ponds core assay data has significant runs of unassayed material which has been included in intercept runs as nil grade. Review of available core photography and geological logs confirms a significant proportion of un-assayed internal waste is sericite-pyrite altered and thus prospective for “orogenic gold”.
Relationship between mineralisation widths and intercept lengths	•These relationships are particularly important in the reporting of Exploration Results. •If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. •If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).	• Not currently applicable to Stringer systems, require geo-metallurgical assessment.
Diagrams	•Appropriate maps and sections (with scales) and tabulations of intercepts should be	• Available as hard copy at Woodlawn mine

Criteria	JORC Code explanation	Commentary
	included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	site, to be digitized.
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Balanced reporting in Bob Cotton JORC 2004 and JORC 2012 reporting
Site visits		• Site visits were made by the Competent Person Ian Buchhorn in January 2015 and November 2016 • This was combined with seeing outcrop characteristics of the quartz eye volcaniclastic sandstone footwall and volcaniclastic siltstone hangingwall rocks.
Other substantive exploration data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• Substantive exploration data reporting in Bob Cotton JORC 2004 and JORC 2012 reporting.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). •Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Multi-element soil auger geochemistry to quantify host geology and lode envelope, then 100m spaced DDH sections for mineralisation continuity/GeoMet. • Copper Hill East and Wiseman's Creek, systematic multi-element soil auger geochemistry to rank "Lewis Ponds style" drill targets.