

ASX & Media Release

28 June 2017

ASX Symbol

ARL

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Shares
67,000,747

Unlisted options
12,310,022

Loyalty options
26,436,923

ABN 30 614 289 342

Substantial increase in KNP Cobalt Zone resource

Remodelling of historic data from Goongarrie South and Big Four, with a focus on cobalt, yields a significant upgrade to the cobalt resource

- Upgraded KNP Cobalt Zone global resource of **65.7 Mt at 0.13 % cobalt and 0.79 % nickel**^{1 2} (up from 49.7 Mt at 0.12 % cobalt and 0.86 % nickel³), including:
 - **25.3 Mt at 0.14 % Co and 0.83 % Ni**² at Goongarrie South
 - **11.4 Mt at 0.13 % Co and 0.71 % Ni**² at Big Four
 - An additional **16.0 Mt added to the cobalt resource** through remodelling of two constituent deposits only.
- Goongarrie South and Big Four measure over **15 km strike length of shallow, lateritic, cobalt-nickel mineralisation.**
- Based on this updated resource, **contained cobalt metal** in the KNP Cobalt Zone now **exceeds 83,000 t** for (up from 59,600 t)
 - At Goongarrie South, an **88 % increase in contained cobalt metal** from a **58 % increase in tonnes** and **19 % increase in grade**
 - At Big Four, a **188 % increase in contained cobalt metal** from a **142 % increase in tonnes** and **19 % increase in grade.**
- Remodelling of other portions of the KNP Cobalt Zone is underway.

¹ Breakdown for the KNP Cobalt Zone resource is as follows. See remainder of document for details.

Area	Prospect	Resource category	Cut-off (% Co)	Size (Mt)	Co (%)	Ni (%)
Goongarrie	Goongarrie South	Total	0.08	25.3	0.14	0.83
	Big Four	Total	0.08	11.4	0.13	0.71
	Scotia	Inferred	0.08	2.9	0.14	0.88
	<i>Subtotal</i>			39.6	0.14	0.80
Siberia	Black Range	Inferred	0.50(Ni)	20.1	0.10	0.75
Yerilla	Aubils	Inferred	0.08	6.0	0.15	0.90
KNP TOTAL				65.7	0.13	0.79

² Reported using a 0.08 % cobalt cut-off for direct comparison to historic resources.

³ See Ardea Resources Second Supplementary Prospectus, January 2017.

Ardea Resources Limited (ASX: ARL, “Ardea” or “the Company”) is pleased to announce that remodelling of the Goongarrie South and Big Four areas of the KNP Cobalt Zone to focus on cobalt mineralisation has been completed. The remodelling, which uses historical drill data but applies cobalt cut-offs (as opposed to nickel cut-offs used for all previous modelling work), has resulted in substantial increases in the tonnage and grade of the cobalt resource.

A new resource model for the KNP Cobalt Zone

The new resource of **65.7 Mt at 0.13 % cobalt and 0.79 % nickel** (reported using 0.08% cobalt lower cut-off, see Table 1 below for breakdown) is for the KNP Cobalt Zone, a higher-grade cobalt-focused subset of the full KNP resource.

Table 1 – KNP Cobalt Zone, Resource Statement from RMRC and HGMC consulting groups. See Tables 2 and 3 for breakdowns of the new Goongarrie South and Big Four resource estimates respectively. All figures are appropriately rounded to reflect the degree of certainty.

Area	Prospect	Resource category	Cut-off (% Co)	Size (Mt)	Co (%)	Ni (%)	Cobalt remodel status
Goongarrie	Goongarrie South	Total	0.08	25.3	0.14	0.83	Upgraded
	Big Four	Total	0.08	11.4	0.13	0.71	Upgraded
	Scotia	Inferred	0.08	2.9	0.14	0.88	Remodel underway
	<i>Goongarrie subtotal</i>				39.6	0.14	0.80
Siberia	Black Range	Inferred	0.50(Ni)	20.1	0.10	0.75	Scheduled
Yerilla	Aubils	Inferred	0.08	6.0	0.15	0.90	Scheduled
KNP TOTAL				65.7	0.13	0.79	

These new resources estimates are defined based on a complete remodelling of historic data. This was done by stripping back to original drill holes and assays and constructing new triangulations and cobalt grade shells.

These new cobalt grade shells more accurately represent the distributions of cobalt mineralisation. Earlier cobalt estimates relied on cobalt distributions within nickel grade shells. In comparison to the new cobalt grade shells, the nickel grade shells were thicker and more irregular in shape, and incorporated broad zones of little cobalt mineralisation along with the higher-grade zones.

Additionally, the new cobalt grade shells are more extensive and incorporate additional cobalt intercepts that weren’t part of earlier estimates. Several new high-grade zones have thus been identified.

Further upgrades to the KNP Cobalt Zone resource are expected as remodelling of the constituent deposits beyond Goongarrie South and Big Four using cobalt-only cut-offs continues.

Goongarrie South cobalt-nickel deposit

Cobalt mineralisation at Goongarrie South is nearly continuous over around 7 km of strike using a 0.05 % cobalt grade shell (Figure 1). Combined, Goongarrie South and Big Four comprise a near-continuous strike of cobalt mineralisation totalling around 17 km. Significantly, the 0.10 % grade shell shows several areas of high grade mineralisation, including the 1 km long Pamela Jean Deeps zone in the south and a near-continuous zone of 1.5 km strike length in the central part of Goongarrie South.

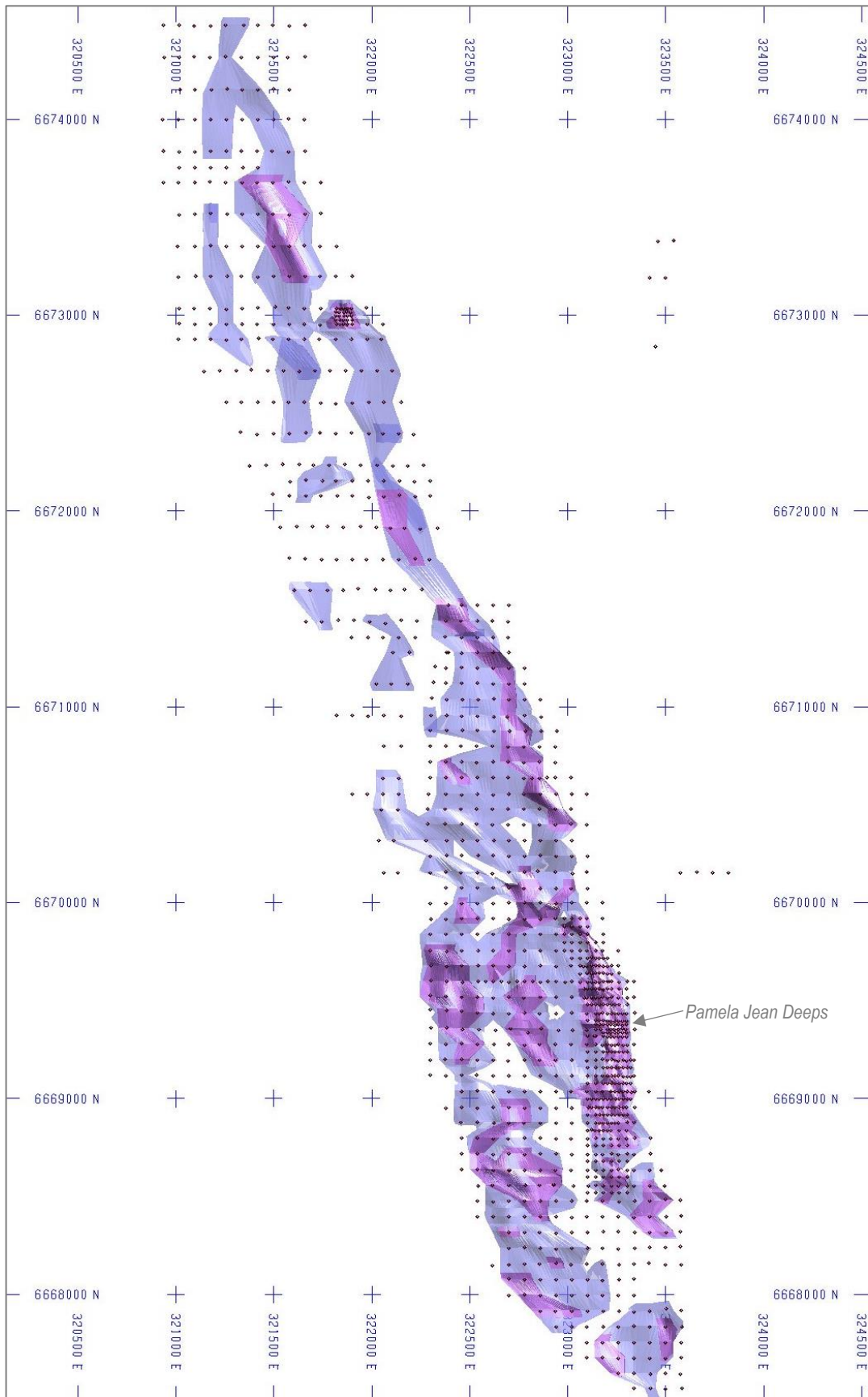


Figure 1 – Goongarrie South area, plan view, showing 0.05 % (blue-purple) and 0.10 % cobalt domains (pink-purple). Each black dot represents a drill hole collar position. This diagram covers an area measuring approximately 7 km by 4.5 km.

New resource estimation

Remodelling of the Goongarrie South resource using a cobalt cut-off has resulted in a significantly upgraded resource. The new Global Resource for Goongarrie South is now **25.3 Mt at 0.14 % cobalt and 0.83 % nickel** (utilising a 0.08 % cobalt cut-off). This comprises the following:

Table 2 – Summary of total mineral resources for Goongarrie South cobalt-nickel deposit, using 0.08 % cobalt reporting lower cut-off. All figures are appropriately rounded to reflect the degree of certainty.

Deposit	JORC Category (RCAT)	Cut-off (% Co)	Tonnage (t)	Cobalt (%)	Nickel (%)
Goongarrie South	Measured	0.08	4,624,000	0.16	1.12
	Indicated	0.08	12,889,000	0.13	0.79
	Inferred	0.08	7,781,000	0.14	0.72
Goongarrie South	Total Resource	0.08	25,295,000	0.14	0.83

Coherent mineralisation at higher cut-off grades

Modelling definitively shows that the Goongarrie South deposit remains coherent at various cut-off grades (e.g. Figure 1), which underscores the high quality of the deposit.

Table 3 – Resource summary for Goongarrie South at varying lower cut-off grades (no resource classification). High-grade zones are abundant. For example, there are over 7 Mt of high-grade (i.e. >0.20 % cobalt) mineralisation using a 0.15 % cobalt cut-off. All figures are appropriately rounded to reflect the degree of certainty.

Deposit	Lower cutoff (% Co)	Tonnage (Mt)	Cobalt (%)	Nickel (%)	Contained Co metal (t)	Contained Ni metal (t)
Goongarrie South	0.02	62.3	0.09	0.71	55,500	442,500
	0.05	48.1	0.10	0.75	49,600	359,900
	0.08	25.3	0.14	0.83	35,000	208,900
	0.10	17.2	0.16	0.88	27,800	150,300
	0.15	7.31	0.22	0.97	16,000	71,200
	0.20	3.1	0.29	1.01	8,700	30,900

At a **0.10 % cobalt cut-off**, the new resource totals **17.2 Mt at 0.16 % cobalt and 0.88 % nickel** which alone is substantially larger than the January 2017 cobalt-focused resource estimate for Goongarrie South (16.0 Mt at 0.116 % Co and 0.96 % Ni⁴) which was estimated at a 0.08 % cut-off. The 0.10 % cut-off is used preferentially in modelling by the Company (e.g. Figure 2).

Pit optimisation and mining potential

This new resource represents mineralisation that is potentially mineable by open pit. A pit optimisation model, which uses various high-level parameters such as current and forecast economic data, proposed production rates, and forecast production costs, portrays several realistic economic models to define conceptual pit designs. The pit optimisation model used here is very much a preliminary one that will be fully optimised during the course of the PFS and will be published on completion of the study.

The resources presented above fall within these preliminary pit optimisation shells. Indeed, with the broad, flat, shallow style of mineralisation present at Goongarrie South, the amount of mineralisation that was not included in the preliminary pit shell was negligible.

⁴ See Ardea Resources Second Supplementary Prospectus, January 2017.

High-grade zones at Goongarrie South are numerous, the best known of which is the 1.2 km long Pamela Jean Deeps (the focus of the recent metallurgical diamond drilling). There are also numerous open pittable high-grade zones defined by the 0.20 % block model grade shells. Such shallow, easily mined, high-grade zones would lend themselves to early mining that could allow a quicker start-up for mining at Goongarrie South and future early project pay-back.

Comparison to the previous resource estimate

In order to directly compare the new results to the original KNP Cobalt Zone resource, the same 0.08 % cut-off is used. Compared to the January 2017 resource estimates at Goongarrie South of 16.0 Mt at 0.116 % cobalt and 0.96 % nickel⁵, this new 25.3 Mt resource marks an **increase of 58 % in tonnes and a 19 % increase in cobalt grade.**

Using the new resource data, the estimated contained **cobalt metal at Goongarrie South** is now **35,000 t**, marking an **88 % increase** (or nearly double earlier estimates of 18,620 t).

With the cobalt grade increased based on cobalt grade shells, the nickel grade has dropped by around 36 % compared to earlier estimates. This is largely an effect of the flatter, more restricted shape of the cobalt-focused resource triangulation, which does not include nickel from higher and lower in the laterite profile.

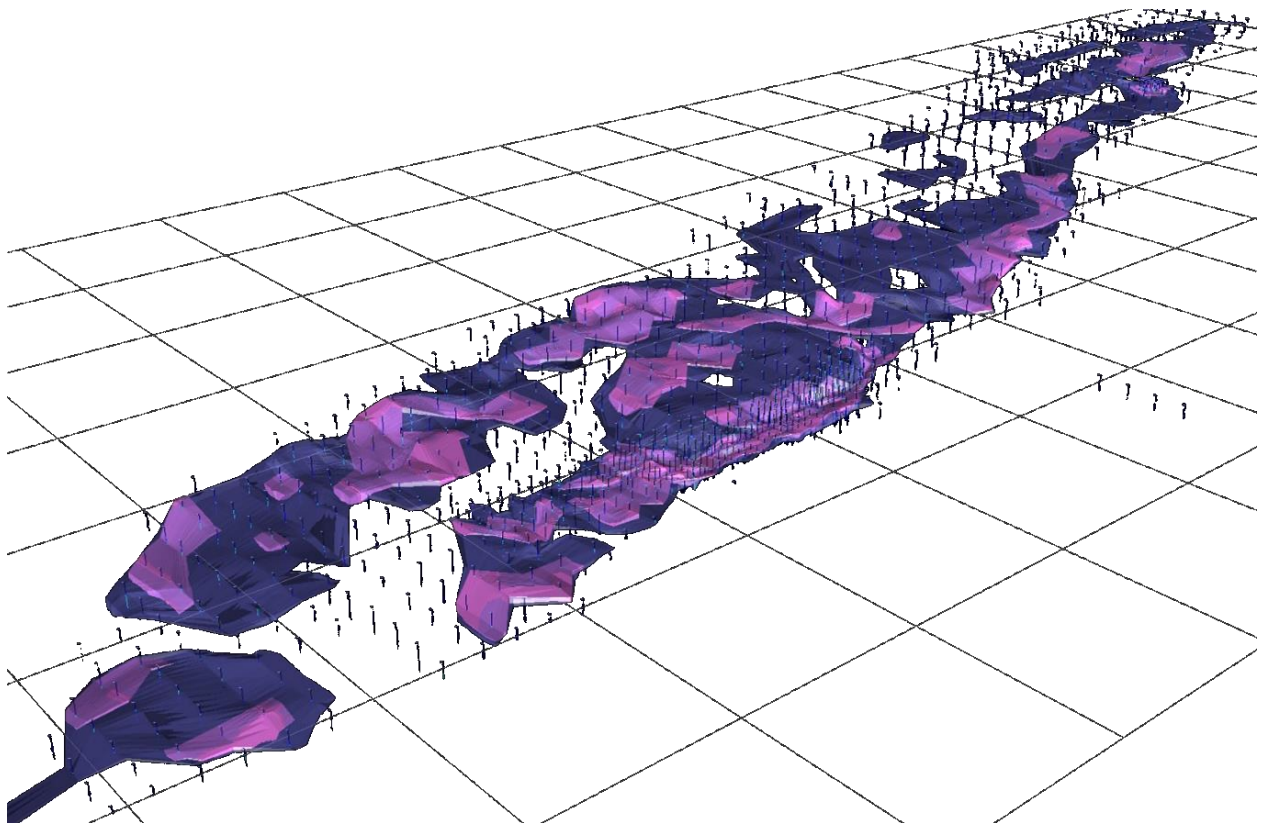


Figure 2 – Goongarrie South resource area showing mineralisation delineation shell wireframes (deep blue-purple = 0.05 % cobalt shell, pink-purple = 0.10 % cobalt shell).

⁵ See Ardea Resources Second Supplementary Prospectus, January 2017

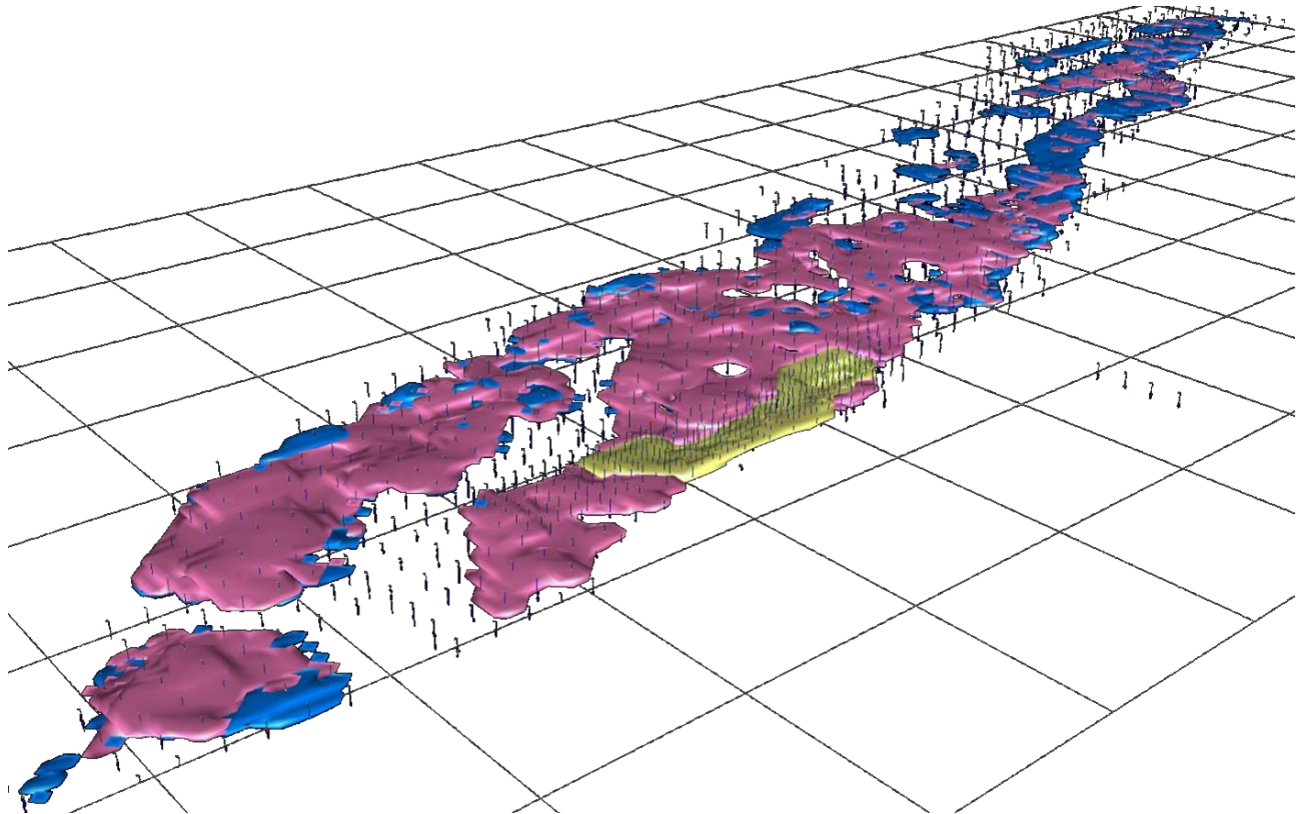


Figure 3 – Goongarrie South resource model coloured by resource category, showing Measured (yellow), Indicated (pink) and Inferred (blue) resource distributions. Note the abundance of Indicated compared to Inferred resources. Measured resources correspond to high-intensity drilling around the Pamela Jean Deeps area (oblique side view, 0.5 % cobalt lower cut-off, view azimuth: 240°, view dip: -20°, grid size: 500 x 500 m).

Big Four cobalt-nickel deposit

Cobalt mineralisation at Big Four is continuous over more than 7 km of strike using a 0.05 % cobalt grade shell (Figure 4). Although the high-grade zones are not as extensive as at Goongarrie South, the 0.10 % cobalt grade shell shows several open pittable and larger high-grade zones that would be amenable to mining.

New resource estimation

Remodelling of the Big Four resource using a cobalt cut-off has resulted in a significantly upgraded resource. The new Global Resource for Big Four is now **11.4 Mt at 0.13 % cobalt and 0.71 % nickel**. This comprises the following:

Table 4 – Summary of total mineral resources for Big Four cobalt-nickel deposit, using 0.08 % Co reporting lower cut-off. All figures are appropriately rounded to reflect the degree of certainty.

Deposit	JORC Category (RCAT)	Cut-off (% Co)	Tonnage (t)	Cobalt (%)	Nickel (%)
Big Four	Measured	0.08	–	–	–
	Indicated	0.08	9,198,000	0.13	0.75
	Inferred	0.08	2,177,000	0.13	0.57
Big Four	Total Resource	0.08	11,375,000	0.13	0.71

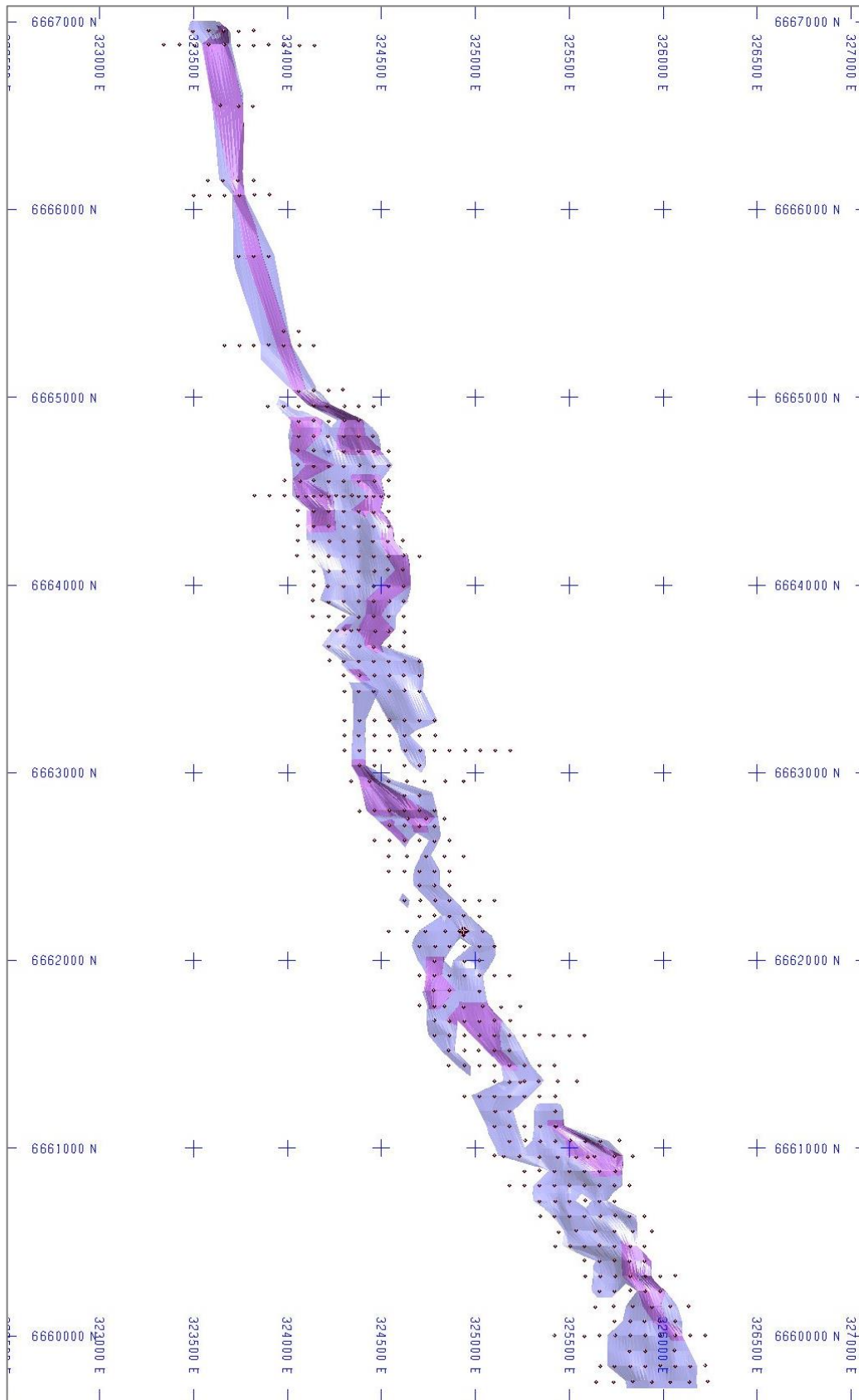


Figure 4 – Big Four area, plan view, showing 0.05 % cobalt (blue-purple) and 0.10 % cobalt domains (pink-purple). Each black dot represents a drill hole collar position. This diagram is at a slightly different scale to Figure 1, covering an area measuring approximately 7.5 km by 5 km

Coherent mineralisation at higher cut-off grades

As at Goongarrie South, modelling definitively shows that the Big Four deposit remains coherent at various cut-off grades (e.g. Figure 4), which again underscores the high quality of the deposit.

There are significant high-grade zones at Big Four that would be amenable to mining by open pit and haulage to a plant at Goongarrie South. Such shallow, easily mined, high-grade zones would lend themselves to early mining following start-up at the Pamela Jean Zone that could allow cash-flow optimisation at the KNP Cobalt Zone.

Table 5 – Resource summary for Big Four at varying lower cut-off grades (global resource). All figures are appropriately rounded.

Deposit	Lower cutoff (% Co)	Tonnage (Mt)	Cobalt (%)	Nickel (%)
Big Four	0.02	28.0	0.09	0.71
	0.05	23.2	0.10	0.67
	0.08	11.4	0.13	0.71
	0.10	7.5	0.15	0.75
	0.15	2.8	0.21	0.84
	0.20	1.2	0.26	0.90

At a **0.10 % cobalt cut-off**, the new resource measures **7.5 Mt at 0.15 % cobalt and 0.75 % nickel**. Once again, this is substantially larger than the January 2017 cobalt-focused resource estimate for Big Four (4.7 Mt at 0.11 % cobalt and 0.89 % nickel⁶) which was estimated at a 0.08 % cut-off. However, tonnages drop off faster as higher cut-off grades are used (Table 5). This is a function of the overall grade of the Big Four deposit being lower than the exceptional grades elsewhere throughout Goongarrie South.

Pit optimisation and mining potential

The pit optimisation parameters and methodology used at Big Four were identical to those used at Goongarrie South. As at Goongarrie South, the amount of mineralisation that was not included in the model was negligible.

Modelling showed that mining would proceed at Goongarrie South for some time before the resources defined at Big Four come into play. Once commenced, Big Four will provide a significant contribution to any cobalt-nickel laterite mine in the KNP Cobalt Zone.

Comparison to the previous resource estimate

Compared to earlier resource estimates at Big Four of 4.7 Mt at 0.11 % cobalt and 0.89 % nickel, this new resource marks an **increase of 142 % in tonnes and a 19 % increase in cobalt grade**. That is, tonnage at Big Four is up by almost 2½ times.

Using the new resource data, the estimated contained **cobalt metal at Big Four** is now **14,900 t**, marking a **188 % increase** (or nearly triple earlier estimates of 5,170 t).

With the cobalt grade increase, the nickel grade has dropped by around 20 % compared to earlier estimates. This is largely an effect of the flatter, more restricted shape of the cobalt-focused resource triangulation, which does not include nickel from higher and lower in the laterite profile. However, with significantly higher tonnes added to the resource, contained nickel tonnes are almost doubled.

⁶ See Ardea Resources Second Supplementary Prospectus, January 2017.

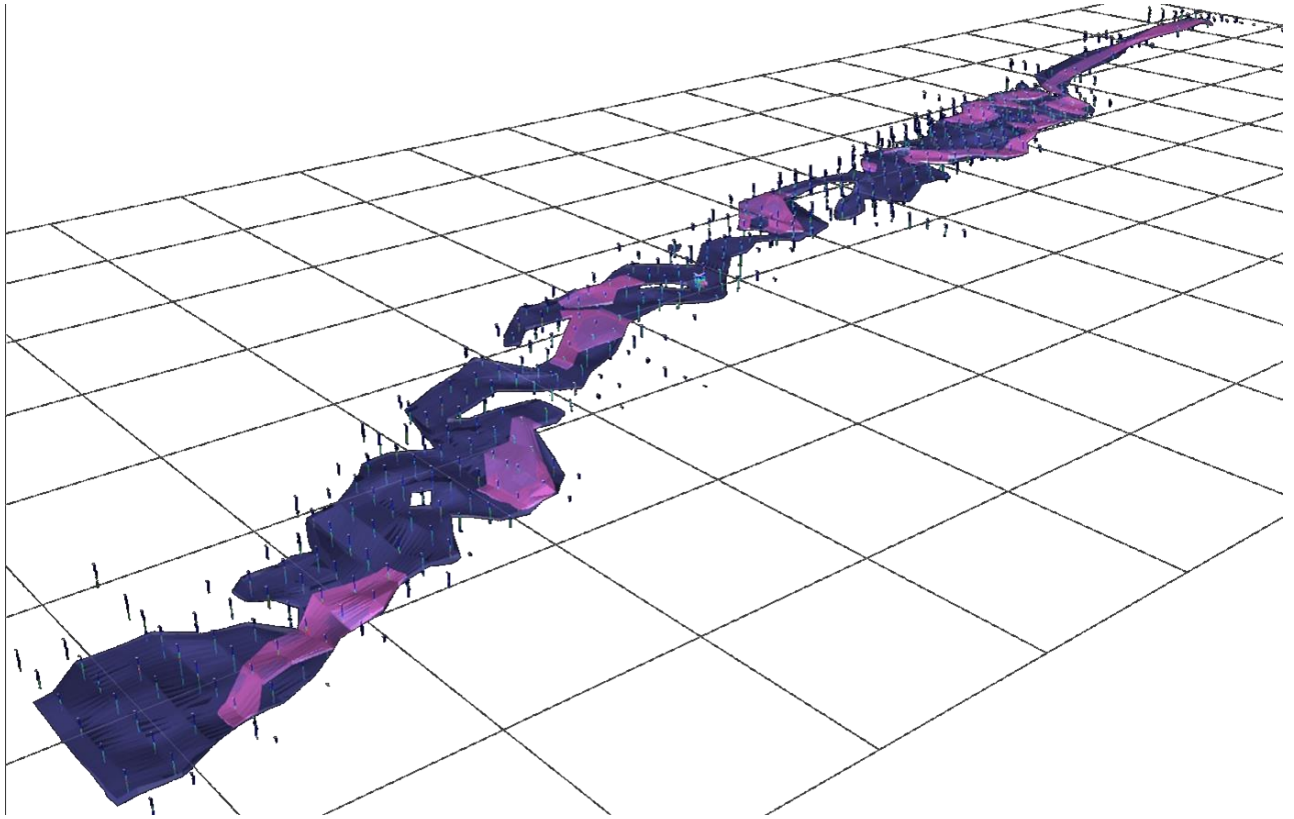


Figure 5 – Big Four resource area showing mineralisation delineation shell wireframes (deep blue-purple = 0.05 % cobalt shell, pink-purple = 0.10 % cobalt shell).

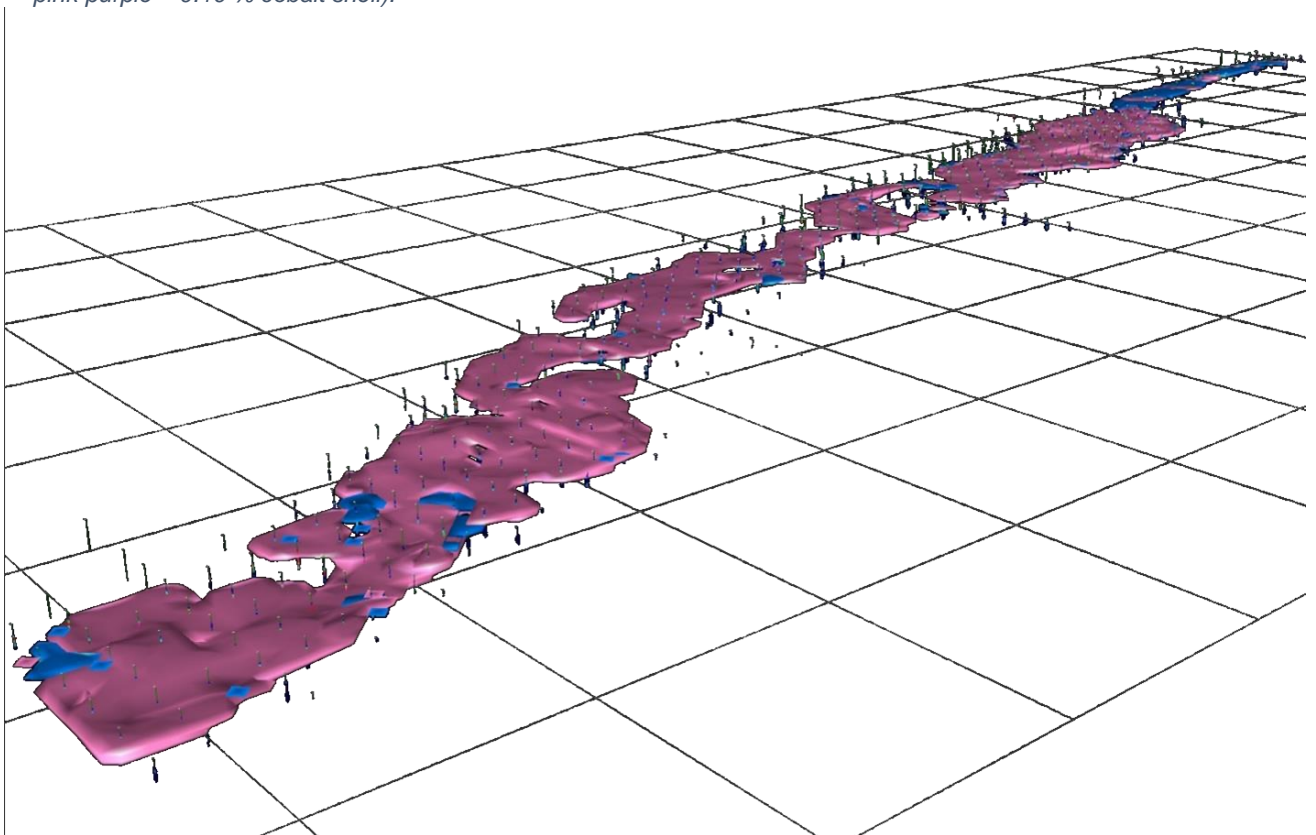


Figure 6 – Big Four resource model coloured by resource category, showing Indicated (pink) and Inferred (blue) resource distributions. Note the abundance of Indicated compared to Inferred resources. No resources have been classified as Measured at Big Four (oblique side view, 0.05 % cobalt lower cut-off, view azimuth: 310°, view dip: -25°, grid size: 500 x 500 m).

The KNP Cobalt Zone as part of the larger KNP

The KNP Cobalt Zone is a part of, or in other words a subset of, the larger KNP.

At Goongarrie South and Big Four, the cobalt grade shells, like the nickel grade shells, are broad, flat, and sub-horizontal. However, in detail they differ in shape so that the cobalt shells are thinner and generally more irregular than the nickel shells. The 0.05 % and 0.10 % cobalt grade shells are always entirely encased within the 0.5 % nickel mineralisation zones.

The effect of this is that there is substantial nickel-only mineralisation at Goongarrie South and Big Four that has not been captured by this cobalt-focused modelling. Such mineralisation may be located above, below, and lateral to the cobalt grade shells. The nickel-focused resources at Goongarrie South and Big Four are thus substantially larger in terms of tonnage as these models additionally capture the nickel-rich / cobalt-poor mineralisation that lies beyond the extent of the cobalt-focused models.

In summary, these updated nickel-focused resources incorporate:

- The new cobalt-focused resource for Goongarrie South
- The new cobalt-focused resource for Big Four
- Outlying nickel-rich / cobalt-poor mineralisation at each deposit that was not included in the cobalt-focused resources. This includes both high and low-grade nickel mineralisation as well as substantial volumes of lower-grade cobalt mineralisation.

The Goongarrie South nickel-focused resource update

At Goongarrie South, a global nickel-based resource, using a 0.5 % Ni cut-off model blocks, has been defined as **83.1 Mt at 0.08 % cobalt and 0.76 % nickel**. This includes all cobalt-based resources at Goongarrie South already reported in this announcement. The resource breakdown is as follows:

Table 6 – Breakdown of the Goongarrie South nickel resource, based on 0.5 % nickel cut-off. This resource includes the higher-grade cobalt resource quoted in Table 2. All figures are appropriately rounded to reflect the degree of certainty.

Resource category	Cut-off (% Ni)	Size (Mt)	Cobalt (%)	Nickel (%)	Contained cobalt (t)	Contained nickel (t)
Measured	0.5	5.8	0.14	1.08	7,900	62,900
Indicated	0.5	51.4	0.08	0.79	42,800	403,800
Inferred	0.5	25.8	0.07	0.63	17,500	161,500
Goongarrie South TOTAL	0.5	83.1	0.08	0.76	68,200	628,300

The Big Four nickel-focused resource update

At Big Four, a similar nickel-focused resource that also uses a 0.5 % Ni cut-off model blocks has been defined as **41.8 Mt at 0.09 % cobalt and 0.69 % nickel**. This includes all cobalt-based resources at Big Four already reported in this announcement. The resource breakdown is as follows:

Table 7 – Breakdown of the Goongarrie South nickel resource, based on 0.5 % nickel cut-off. This resource includes the higher-grade cobalt resource quoted in Table 3. All figures are appropriately rounded to reflect the degree of certainty.

Resource category	Cut-off (% Ni)	Size (Mt)	Cobalt (%)	Nickel (%)	Contained cobalt (t)	Contained nickel (t)
Indicated	0.5	34.2	0.08	0.71	28,700	241,700
Inferred	0.5	7.6	0.09	0.61	6,800	46,700
Big Four TOTAL	0.5	41.8	0.09	0.69	35,500	288,500

Comparison to historic nickel-focused resources

These values vary from earlier Heron Resources 2013 estimates. This is likely due to a number of factors, including:

- Increased rigour and constraints in defining the new nickel models presented here.
- Variations in definition of economic parameters in the pit optimisation modelling, in particular the relatively large increase in the metal price value of cobalt compared to nickel.

An update to the total Goongarrie nickel resource (and the global KNP resource) will be issued on completion of remodelling of Goongarrie Hill and Scotia.

Upgrading the resources for other parts of the KNP Cobalt Zone

With the substantial increases to the resources for Goongarrie South and Big Four, it is clear that remodelling of the other constituent parts of the KNP Cobalt Zone, namely Black Range, Scotia, and Aubils, is required as a resource statement to supersede the Heron October 2013 estimate.

Work on the remodelling of Scotia, which is located immediately to the south of Big Four, is underway. Concurrently, remodelling of Goongarrie Hill immediately to the north of Goongarrie South will also be undertaken. This area will be remodelled to complete the upgrade of this approximately 20 km long belt of lateritic cobalt-nickel mineralisation from Scotia to Goongarrie Hill.

Following this, remodelling of the Black Range deposit will commence. Like those deposits described here, the new resource model at Black Range will be based on historic data. Unlike Goongarrie South and Big Four, new drill hole data from the Company's recent drill program will be incorporated into the new Black Range model. Other metals that are known to be anomalous at Black Range, including chromium, platinum, palladium, and possibly scandium, will be incorporated into this model where possible.

KNP Cobalt Zone pre-feasibility study

The upgraded resources being estimated for all parts of the KNP Cobalt Zone will significantly enhance modelling and evaluation for the KNP Cobalt Zone PFS. These models will significantly affect projected mining schedules, with the high-grade near surface zones of mineralisation that are particularly evident at Goongarrie South being a target for mining start-up.

Initial assay results have just been received for the four core holes at Goongarrie South and are currently being reviewed for QAQC compliance. Initial interpretation and geo-metallurgical core logging confirms the widths of cored mineralisation are consistent with previous RC drill estimates from the Vale Inco 2005-2009 study period. Full Ardea assay results will be reported shortly.

In particular, metallurgical test work has commenced at Simulus Engineering in Perth using the Goongarrie drill core. The resource estimation was required to ensure the Simulus study is based on run-of-mine grades.

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

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Compliance Statement (JORC 2012)

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

- 1. Kalgoorlie Nickel Project on 21 October 2013 and 31 June 2014, October 2016, 2016 Heron Resources Annual Report and 6 January 2017;*
- 2. KNP Cobalt Zone Study on 6 January 2017*

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

The information in this report that relates to KNP Exploration Results is based on information originally compiled by previous and current full time employees of Heron Resources Limited. The Exploration Results and data collection processes have been reviewed, verified and re-interpreted by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

The exploration and industry benchmarking summaries are based on information reviewed by Dr Matthew Painter, who is a Member of the Australian Institute of Geoscientists. Dr Painter is a full-time employee and a director of Ardea Resources Limited and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Painter has reviewed this press release and consents to the inclusion in this report of the information in the form and context in which it appears.

The information in this report that relates to Mineral Resources for the Goongarrie South and Big Four cobalt-nickel deposits contained within the KNP Cobalt Zone project area is based on information compiled by Mr Stephen Hyland who is a Fellow of the Australasian Institute of Mining and Metallurgy and who has provided expert guidance on resource modelling and resource estimation. Mr Hyland is a Principal Consultant Geologist at HGMC consultants and has sufficient experience 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 Hyland consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and ability to complete the Ardea spin-out, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures,

the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information. Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time. Forward-looking information involves significant risks, uncertainties, assumptions and other factors that could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking information. These factors, including, but not limited to, the ability to complete the Ardea spin-out on the basis of the proposed terms and timing or at all, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

Although the forward-looking information contained in this news release is based upon what management believes, or believed at the time, to be reasonable assumptions, the Company cannot assure prospective purchasers that actual results will be consistent with such forward-looking information, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither the Company nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking information. The Company does not undertake, and assumes no obligation, to update or revise any such forward-looking statements or forward-looking information contained herein to reflect new events or circumstances, except as may be required by law.

No stock exchange, regulation services provider, securities commission or other regulatory authority has approved or disapproved the information contained in this news release.

Appendix 1 – Summary of Information Required according to ASX Listing Rule 5.8.1

Goongarrie South and Big Four Mineral Resources

Geology and Geological Interpretation

The nickel laterite mineralisation within the KNP areas is developed from the weathering and near surface enrichment of Archaean-aged olivine-cumulate ultramafic units. The mineralisation is usually within 60 metres of surface and can be further sub divided on mineralogical and metallurgical characteristics into upper iron-rich material and lower magnesium-rich material based on the ratios of iron to magnesium. The deposits are analogous to many weathered ultramafic-hosted nickel-cobalt deposits both within Australia and world-wide.

The total strike length of the main Goongarrie South cobalt mineralisation domains is approximately 7,400 metres with observed widths of approximately 400 and up to 1000 metres. Several semi-parallel mineralisation zones are observed are with variable thicknesses typically in the order of 5-20 metres thick with some zones being up to and exceeding 50 meters thick in the area referred to as the Pamela-Jean Zone. Interpreted mineralisation has been modelled from near topographic surface (378mRL) down to approximately the 220m RL (approximately 160m vertical from surface).

The total length of the main Big Four Area cobalt mineralisation domains is approximately 7,700 metres with observed widths of approximately 300 metres. As with Goongarrie South, some similar semi-parallel mineralisation zones are observed are with variable thicknesses typically in the order of 5-15 metres thick with some zones being in the range of 20 to 40 metres thick. Interpreted mineralisation has been modelled from near topographic surface (380mRL) down to approximately the 298m RL (approximately 80m vertical from surface).

Drilling Techniques

A staged series of drilling programs commencing in 1999 has generated a substantial drilling database for Goongarrie South containing 897 RC drill holes for a total of 48,600m. The majority of drilling was carried out by Heron from 1999 to 2001 with a further 225 holes (11,880m) drilled by Vale/Inco from 2007 to 2008. A range of drill pattern densities are used ranging from 80mx160m or 80mx80m and down to 20mx20m in places. Vale/Inco also drilled 2 diamond holes for the purposes of carrying out beneficiation test work as well as 7 sonic holes of which 4 were used to in a 'twinned hole' review to directly compare against results from previously drilled RC holes.

At the Big Four Area, extensive RC drilling programs carried out by Heron during 1999, 2000, 2002, 2004 and 2006 account for approximately 88% of all drilling. The total drilling dataset is comprised of database contains 496 RC drill holes for a total of 22,603m with 73 holes (2,661m) drilled by Anaconda in year 2000. Six (6) diamond PQ sized holes were also drilled by Vale / Inco (2008) to help confirm the geology and grades shown from the RC sampling and also to collect samples for metallurgical test-work.

Drill hole collars were surveyed using an RTK DGPS system with either a 3 or 7 digit accuracy. The coordinates are stored in the project exploration databases referenced to the MGA Zone 51 Datum GDA94. Holes were usually vertical (-90 degree dip), designed to optimally intersect the sub-horizontal mineralisation.

Sampling and Sub-sampling

Sampling procedures at both Goongarrie South and Big Four were essentially the same, with majority of holes were sampled using 2 metre down-hole intervals. (With a few 1 metre sample intervals in some places).

RC holes form the majority of the samples used in the resource estimation. DD holes were drilled for a combination of or for the purposes of:

- twin testing of RC drilling;
- density determination;
- geotechnical logging and test work;
- geological logging (structural logging); and
- metallurgical test work.

Where appropriate the results of diamond core sampling and assays were used in the resource estimate.

The RC drilling was performed with a face sampling hammer (bit diameter between 4½ and 5¼ inches) and samples were collected by either a cone (majority) or riffle splitter using 2 metre composites. Sample condition, sample recovery and sample size were recorded for all drill samples collected. RC Drilling; 2 metre (and rarely 1 metre) composite samples were recovered using a 15:1 rig mounted cone splitter or trailer mounted riffle splitter during drilling into a calico sample bag.

Sample target weight was between 2 and 3kg. In the case of wet clay samples, the samples were collected in poly-weave bags and allowed to settle and de-water to facilitate spear samples taken from sample return pile. Wet samples stored separately from other samples in plastic/poly-weave bags and riffle split if sufficiently dry.

The DD holes were drilled with HQ triple tube. All diamond holes were logged for geotechnical, geological and density. Where appropriate (holes not drilled for metallurgical purposes), holes were whole core sampled to geological boundaries (approximately 1 metre) and assayed. Drill runs were reduced to as little as 0.5 metre in poor ground conditions to maximise core recovery. Core recovery was excellent being over 90% for both deposit areas.

For RC sampling QAQC was employed on all programs. A standard, blank or duplicate sample was inserted into the sample stream 10 metres on a rotating basis. All standards were quantified industry standard reference samples. Every 30th sample a duplicate sample was taken using the same sample sub sample technique as the original sub sample. Sample sizes are appropriate for the nature of Mineralisation. QAQC results were verified against each program prior to loading into the database. A small percentage of holes were separately resampled post drilling to confirm the integrity of the different sampling techniques employed.

Sample Analysis Method

All Heron and Vale / Inco samples were prepared and analysed by Ultratrace Laboratories in Perth by silicate fusion / XRF analysis (lab method XRF202) for multiple grade attributes (Ni, Co, MgO, FeO, Al₂O₃, SiO₂, CaO, Mn, Cr, Cu, Zn, As, S and Cl).

Fusion / XRF analysis is an industry standard method used to analyse nickel laterite ores and Ultratrace is a reputable commercial laboratory with extensive experience in assaying nickel laterite samples from numerous Western Australian nickel laterite deposits.

A small number of historic samples at Goongarrie were assayed by KAL Laboratory in Kalgoorlie using four acid digestion (4AD) and either AAS or ICP_OES finish for Ni, Co, MgO, FeO, Al₂O₃, CaO, Mn, Cr, Cu and Zn. XRF analysis of pressed powder (PP) for Ni, Co, MgO, FeO, Al₂O₃, SiO₂, CaO, Mn, Cr, Cu and Zn was also used initially at Goongarrie. Nickel and cobalt assays of laboratory pulp duplicates were examined closely to monitor the analytical precision of the three methods used.

Estimation Methodology

A uniform block size was used at both Goongarrie South and Big Four with the block model dimensions set at 40m east x 40m north x 4m(RL). No sub-blocks were used. Mineralised proportions of blocks were coded with a block percentage code for volume estimation purposes. In total 50 block model benches were used at Goongarrie South (200m→400m RL) and 27 benches at Big Four (288m→396m RL) to cover the main mineralisation elevation ranges. The natural topographic surface is relatively flat and featureless at both deposit areas.

Sample data utilised was first composited according to the main Co item to a 2m down-hole composite length. The 2m composites were flagged using domain codes generated from 3D mineralisation domains and geological surfaces. Grade continuity was measured using geostatistical techniques. Directional variograms were modelled using traditional and normal score transformation semi-variograms.

Grade estimation using Ordinary Kriging was completed for one reportable element – Co% - using MineSight® software. A single search ellipsoid was used to estimate each block.

The influence of extreme grade values were examined utilising top cutting analyst tools (grade histograms, log probably plots and coefficients of variation). A variable Co% cut-off with a 'restriction distance' according to a set of 10 'Areas Domains' for each deposit area was applied to control block model interpolation.

Bulk densities were measured for the Goongarrie South area by both gamma down hole measurements and weight of recovered core versus drilled volume and wet/dry density measurement of drill core. Both the wet/dry and weight of recovered core methods included voids in the density assessment. Most of the mineralisation lies within the 'clay' material which has a dry density of between 1.30 and 1.33 t/m³.

Resource Classification

The Resource model uses a classification scheme at both Goongarrie South and Big Four used the same standard approach and was based upon block additional available estimation parameters including Kriging Variance, number of composites in search ellipsoid composite distance to block centroid. These inputs were used to derive relative confidence levels or 'quality of estimate index' (QLTY item) within the block model) which has a range of 1 to 3, where QLTY=1, 2 or 3 represents high, medium or low confidence respectively. The QLTY item values were further condensed into an unbiased RCAT item describing the confidence of the localized resource base in the block model. Preliminary Resource Classification Item – (RCAT) Values 1-3 – (Nominally ('Meas'), 'Ind' and 'Inf' [(1), 2 or 3] – A small amount of Measured resources for Goongarrie South is reported at this time.

Ultimate classification by the Competent Person has also taken into account a range of other modifying factors commencing with the geological understanding of the Goongarrie South and Big Four deposit areas which is a primary requirement to producing a robust resource estimation model. The Mineral Resource Estimates have been carried for the both deposit areas in accordance with the JORC Code (2012 Edition) guidelines.

Cut-off Grade

For both the Goongarrie South and Big Four deposit areas HGMC considers that all mineralized material within 100m vertical depth from surface will satisfy JORC modifying factors criteria relating to reasonable expectations that a part of the resource is likely to be exploitable at a given foreseeable future time. HGMC's opinion is that the 0.08 Co (%) lower cut-off is an adequate lower reporting cut-off for open cut pit exploitable cobalt mineral resources as required in consideration of the JORC Code which are likely to be exploited by open cut mining methods within a nominal 100m of topographic surface.

HGMC cautions the reader that the reported resources for Goongarrie South and Big Four should also be viewed with direct reference to the Auralia Mining Consultants Pre-Feasibility Study report and the use of the revised reporting lower cut-off is contingent upon the findings and recommendations from this report. These findings and recommendations may change at a future time due to fluctuations in mining costs and nickel and cobalt market conditions.

Mining and Metallurgical Methods and Parameters and other modifying factors

The Mining PFS study carried out by Auralia Mining Consultants combined with ongoing metallurgical test work reviews are consistent with a reasonable view that an open cut pit mining operation can be employed to recover mineralised nickel and cobalt ores. As part of the Mining PFS a series of strategic mining schedules were also generated based on annualised production rates with an aim to generally achieve maximum net revenue or value from the two main deposits.

Financial in-pit mining cost inputs and other processing cost parameters were applied on various base case scheduling scenarios along with selected sensitivity adjustments to investigate the overall project economics.

Appendix 2 – JORC Code, 2012 Edition, Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
<p>Sampling techniques</p> <p><i>Note: Due to the similarity of the deposit styles, procedures and estimations used this table represents the combined methods for all Ardea Resources (ARL) Cobalt and Nickel Laterite Resources. Where data not collected by ARL has been used in the resource calculations, variances in techniques are noted.</i></p>	<ul style="list-style-type: none"> Nature and quality of sampling (e.g. 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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> The nickel laterite resources were sampled by drilling using dominantly Reverse Circulation (RC) with occasional Diamond Drill (DD) on various grid spacing between 10x10 metre and 80x160 metre spacing. Holes were usually vertical (-90 degree dip), designed to optimally intersect the sub-horizontal mineralisation. Most holes were sampled on 2 metre, or less commonly, 1 metre down hole intervals. RC holes form the majority of the samples used in the resource estimation. DD holes were drilled for a combination of: <ul style="list-style-type: none"> twin testing of RC drilling; density determination; geotechnical logging and test work; geological logging (structural logging); and metallurgical test work. Where appropriate the results of diamond core sampling and assays were used in the resource estimate. Several bulk sample holes employing either Calweld (900 to 1200mm, large diameter well boring rig) or Sonic drilling techniques were also completed at Jump Up Dam, Goongarrie, Highway and Siberia Deposits. These holes were primarily for obtaining bulk samples for metallurgical studies and the assay results were not used in the resource estimation. Bulong East resources were estimated using the database of Bulong Mining Pty Ltd (in Receivership). Techniques employed were broadly similar to those used by Heron. Goongarrie Hill, Goongarrie South, Highway and Siberia Deposits were all partially explored by Vale between 2002 and 2007. Vale/ Inco employed the same drilling and sampling techniques as Heron for these deposits.
<p>Drilling techniques</p>	<ul style="list-style-type: none"> Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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). 	<ul style="list-style-type: none"> RC drilling was performed with a face sampling hammer (bit diameter between 4½ and 5 ¼ inches) and samples were collected by either a cone (majority) or riffle splitter using 2 metre composites. Sample condition, sample recovery and sample size were recorded for all drill samples collected by HRR. DD holes were drilled with HQ triple tube. All material of sufficient competence was oriented using spear or Easymark™ techniques. All diamond holes were logged for geotechnical, geological and density. Where appropriate (holes not drilled for metallurgical purposes), holes were whole core sampled to geological boundaries (approximately 1 metre) and assayed. Calweld samples (not used in resource model but used for metallurgical testing) were collected in bulka bags on 1 metre down hole intervals. Sonic drill samples were collected as whole core samples, 6 inches diameter of up to 1 metre lengths in sealed clear plastic wrap. Sonic core of longer lengths was split as it was retrieved from the drill string to facilitate handling of the heavy samples.
<p>Drill sample recovery</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> RC chip sample recovery was recorded by visual estimation of the reject sample, expressed as a percentage recovery. Overall estimated recovery was approximately 80%, which is considered to be acceptable for nickel laterite deposits.

Criteria	JORC Code explanation	Commentary
	<p><i>samples.</i></p> <ul style="list-style-type: none"> • <i>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.</i> 	<p>RC Chip sample condition recorded using a three code system, D=Dry, M=Moist, W=Wet. DD Core recovery was recorded during logging. A small proportion of samples were moist or wet (11.5%), with the majority of these being associated with soft goethite clays, where water injection has been used to improve drill recovery.</p> <ul style="list-style-type: none"> • Measures taken to ensure maximum RC sample recoveries included maintaining a clean cyclone and drilling equipment, using water injection at times of reduced air circulation, as well as regular communication with the drillers and slowing drill advance rates when variable to poor ground conditions are encountered. • For diamond drilling, drill runs were reduced to as little as 0.5 metre in poor ground conditions to maximise core recovery. Core recovery was excellent being over 90% for all deposits. • Recovery from Sonic drilling was excellent with very good recoveries experienced in soft goethite clays where water injection was required in RC to facilitate acceptable recoveries. • In Calweld drilling, drill bit diameter was changed to account for ground hardness to maximise sample recovery and bore hole penetration. A specialized shoot was constructed to maximise the recovery from the drill head. Samples were stored in bulka bags to prevent contamination or sample loss. • A number of twin holes using both DD and RC methods were drilled to confirm that the RC sampling was repeatable and therefore representative and without significant bias. These twin holes included areas where wet ground conditions were experienced during RC drilling. No statistically significant bias was recorded in the results.
Logging	<ul style="list-style-type: none"> • <i>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.</i> • <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> • <i>The total length and percentage of the relevant intersections logged.</i> 	<ul style="list-style-type: none"> • For RC drilling, visual geological logging was completed for all RC drilling on 1 metre intervals. The logging system was developed by Heron specifically for the KNP and was designed to facilitate future geo-metallurgical studies. Logging was performed at the time of drilling, and planned drill hole target lengths adjusted by the geologist during drilling. The geologist also oversaw all sampling and drilling practices. A mixture of Heron employees and contract geologists supervised all drilling. A small selection of representative chips were also collected for every 1 metre interval and stored in chip-trays for future reference. Only drilling contractors with previous nickel laterite experience and suitable rigs were used. • For DD holes, both visual geological and geotechnical logging were performed on all drill core. Core was also selectively sampled for both geological and metallurgical test work. • Calweld and Sonic holes were visually geologically logged prior to being sampled for metallurgical test work. • The geological legend used by Heron is a qualitative legend designed to capture the key physical and metallurgical features of the nickel laterite mineralisation. Logging captured the colour, regolith unit and mineralisation style, often accompanied by the logging of protolith, estimated percentage of free silica, texture, grain size and alteration. Logging correlated well with the geochemical algorithm developed by Heron for the Yerilla Nickel Project for material type prediction from multi-element assay data. • Drilling conducted by Vale / Inco at Highway, Goongarrie and Siberia was logged in similar detail to Heron's procedures, but used a slightly modified geological legend. There is a direct translation between the Vale /Inco and Heron logging legends.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> • <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> • <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> • <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> • <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> • <i>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.</i> • <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> • RC Drilling: 2 metre (and rarely 1 metre) composite samples were recovered using a 15:1 rig mounted cone splitter or trailer mounted riffle splitter during drilling into a calico sample bag. Sample target weight was between 2 and 3kg. In the case of wet clay samples, grab samples taken from sample return pile, initially into a calico sample bag. Wet samples stored separately from other samples in plastic bags and riffle split once dry. • For RC sampling QAQC was employed on all programs. A standard, blank or duplicate sample was inserted into the sample stream 10 metres on a rotating basis. Standards were either quantified industry standards, or standards made from homogenised bulk samples of the mineralisation being drilled (in the case of the Yerilla project). Every 30th sample a duplicate sample was taken using the same sample sub sample technique as the original sub sample. Sample sizes are appropriate for the nature of mineralization. QAQC results were verified against each program prior to loading into the database. • A small percentage of holes were separately resampled post drilling to confirm the integrity of the different sampling techniques employed. • For DD holes, where not required for metallurgical or geotechnical purposes, samples were taken using whole core.

Criteria	JORC Code explanation	Commentary
		and submitted for assay. No duplicates of core samples were taken, but standards and blanks were employed as for the RC drilling. Whole core sampling was used to increase the sample size to approximate the same sample mass as for the RC drilling for the purposes of comparing of twinned holes, and to eliminate difficulties in biasing of samples during the splitting of core, with its inherent variable hardness.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>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.</i> <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i> 	<ul style="list-style-type: none"> All Heron and Vale / Inco samples were prepared and analysed by Ultratrace Laboratories in Perth by silicate fusion / XRF analysis (lab method XRF202) for multiple grade attributes (Ni, Co, MgO, FeO, Al₂O₃, SiO₂, CaO, Mn, Cr, Cu, Zn, As, S and Cl). Fusion / XRF analysis is an industry standard method used to analyse nickel laterite ores and Ultratrace is a reputable commercial laboratory with extensive experience in assaying nickel laterite samples from numerous Western Australian nickel laterite deposits. Ultratrace routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring. Heron also inserted QAQC samples into the sample stream at a 1 in 10 frequency, alternating between duplicates splits, blanks (quartz or garnet sands) and standard reference materials. All of the QAQC data has been statistically assessed and the precision and accuracy of the assay data for the important grade components has been found to be acceptable and suitable for use in resource estimation. A small number of historic samples at Bulong, Goongarrie and Highway were assayed by KAL Laboratory in Kalgoorlie using four acid digestion (4AD) and either AAS or ICP_OES finish for Ni, Co, MgO, FeO, Al₂O₃, CaO, Mn, Cr, Cu and Zn. XRF analysis of pressed powder (PP) for Ni, Co, MgO, FeO, Al₂O₃, SiO₂, CaO, Mn, Cr, Cu and Zn was also used initially at Goongarrie. Nickel and cobalt assays of laboratory pulp duplicates show the analytical precision for all three methods to be acceptable. However, there is potentially significant bias in MgO, FeO, Al₂O₃, Mn and Cr assays based of 4AD_ICP_OES and PP_XRF analyses. Both four acid digest methods were unable to analyse for SiO₂, due to incomplete digestion. As a result, whilst the nickel and cobalt results were suitable for use in modelling, the geochemical modelling of the Goongarrie deposits requires additional sampling and assaying, in particular for SiO₂.
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> A selection of samples have been analysed at an alternate laboratory (SGS Analabs) using XRF fusion technique to verify the results reported by Ultratrace. The compared results show a high degree of precision and no systematic bias. Two metre composites for the twinned RC and DD or Sonic hole pairs have been statistically compared and determined to have similar unbiased chemical compositions for Jump Up Dam, Highway, Goongarrie deposits. Whilst there was some variability in the geology of the close spaced drill holes, the short range variance is typical of nickel laterite deposits in WA. Where geology agreed within the twinned holes, assays were generally similar between the different methods. There was a slight negative bias in the material reporting to the fines component of RC sampling (which includes Ni, Co, FeO, Al₂O₃ and Mn) compared to the Sonic drilling in some of the twinned holes at Goongarrie and Highway, and a corresponding upgrade in coarse material (calcrete, carbonates and siliceous material). Despite the evidence for grade differences in some of the twinned holes related to the RC drilling process, overall, the RC drilling is still considered to provide samples that adequately represent the true geochemistry of the regolith which are suitable for the purpose of resource estimation. No adjustments have been made to the assay data.
Location of data points	<ul style="list-style-type: none"> <i>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.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> All drill holes surveyed using an RTK DGPS system with either a 3 or 7 digit accuracy. The coordinates are stored in the exploration database referenced to the MGA Zone 51 Datum GDA94. Most vertical holes used in the resource estimation were not down hole surveyed. The sub-horizontal orientation of the mineralisation, combined with the soft nature of host material would result in minimal deviation of vertical RC drill holes. All diamond holes were down hole surveyed by an external contractor. A small number of vertical open RC holes were check surveyed at Jump Up Dam, and found to have deviation over 60m of less than 1 metre, which is considered sufficiently accurate for this style of mineralisation. The grid system for all models is GDA94. Where historic data or mine grid data has been used it has been transformed

Criteria	JORC Code explanation	Commentary
		into GDA94 from its original source grid via the appropriate transformation. Both original and transformed data is stored in the digital database. <ul style="list-style-type: none"> Topographic control varies between the deposits. At Jump Up Dam, LIDAR data to $\pm 10\text{cm}$ vertical and $\pm 50\text{cm}$ horizontal was used to generate a contour plan which was then used to construct a DTM of the topography. For Bulong existing picked up pit DTMs (from mine surveys) were added to a DTM constructed from drill hole collars to produce a topographic DTM post mining. For all other deposits, DTMs were constructed from picked up drill collar locations. The use of collar data is considered sufficiently accurate for reporting of resources, but is not suitable for mine planning and reserves.
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All prospects have been drilled on uniform grids ranging from a maximum of $400\text{mE} \times 100\text{mN}$ at Black Range to a minimum of $10\text{mE} \times 10\text{mN}$ in trial mining areas at Jump-up Dam. The drill spacing at the prospects containing continuous cobalt rich mineralisation ranges from $20\text{mE} \times 20\text{mN}$ to $80\text{mE} \times 160\text{mN}$ at Goongarrie South, is mostly $80\text{mE} \times 80\text{mN}$ at Big Four and Scotia, ranges from $80\text{mE} \times 160\text{mN}$ to $160\text{mE} \times 360\text{mN}$ at Aubils, and is consistently $400\text{mE} \times 100\text{mN}$ at Black Range. All Heron RC samples were composited to 2 metre prior to sampling during drilling. All DD twin holes and Vale 1 metre sampled RC holes have been digitally composited from 1 metre to 2 metre to match the RC composites prior to resource estimation.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The majority of the drill holes is vertical and give true width of the regolith layers and mineralisation. On a local scale there is some variability due to sub-vertical to vertical structures which may not be picked up with the relatively broad spaced vertical drill pattern employed. This local variability is not considered to be significant for the project overall, but will have local effects on mining and scheduling later in the project life.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> All samples were collected and accounted for by Heron employees during drilling. All samples were bagged into plastic bags and closed with cable ties. Samples were transported to Kalgoorlie from site by Heron employees in sealed bulka bags. Consignments were transported to Ultratrace Laboratories in Perth by Coastal Midwest Transport. All samples were transported with a manifest of sample numbers and a sample submission form containing laboratory instructions. Any discrepancies between sample submissions and samples received were routinely followed up and accounted for.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Heron has periodically conducted internal reviews of sampling techniques relating to resultant exploration datasets, and larger scale reviews capturing the data from multiple drilling programmes within the KNP. Internal reviews of the exploration data included the following: <ul style="list-style-type: none"> Unsurveyed drill hole collars (less than 1% of collars). Drill Holes with overlapping intervals (0%). Drill Holes with no logging data (less than 2% of holes). Sample logging intervals beyond end of hole depths (0%). Samples with no assay data (from 0 to <5% for any given project, usually related to issues with sample recovery from difficult ground conditions, mechanical issues with drill rig, damage to sample in transport or sample preparation). <ul style="list-style-type: none"> Assay grade ranges. Collar coordinate ranges Valid hole orientation data. □ The Ultratrace Laboratory was visited by Heron staff in 2006, and the laboratory processes and procedures were reviewed at this time and determined to be robust. □ The exploration data for the Siberia and Goongarrie Regions were initially reviewed in detail were by Heron in 2004 and subsequently by Vale / Inco in 2005

Section 2 - Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> The tenement and land tenure status for the KNP prospect areas containing continuous cobalt rich laterite mineralisation is summarised in Table 3 following and in the Ardea Prospectus, section 9 "Solicitor's Report on Tenements".
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> The Goongarrie South, Scotia, Aubils and Jump Up Dam deposits were discovered and explored by Heron Resources Limited. The Black Range deposit was initially discovered and drilled by Anaconda Nickel Limited. Vale Inco completed a prefeasibility study on the KNP which included extensive drilling of the Goongarrie South and Big Four deposits relevant to the current updated resource reporting.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The KNP nickel laterite mineralisation, including cobalt rich areas is developed from the weathering and near surface enrichment of Achaean-aged olivine-cumulate ultramafic units. The mineralisation is usually within 60 metres of surface and can be further sub divided on mineralogical and metallurgical characteristics into upper iron-rich material and lower magnesium-rich material based on the ratios of iron to magnesium. The deposits are analogous to many weathered ultramafic-hosted nickel-cobalt deposits both within Australia and world-wide. Cobalt rich mineralisation is typically best developed in iron rich material in regions of deep weathering in close proximity to major shear zones or transfer shear structures and to a lesser extent as thin zones along the interface of ferruginous and saprolite boundaries at shallower depths proximal to shear structures. The Cobalt Zone is associated with a distinctive geo-metallurgical type defined as "Clay Upper Pyrolusitic". Mineralogy is goethite, gibbsite and pyrolusite (strictly "asbolite" or "cobaltian wad"). The Cobalt Zones typically occur as sub-horizontal bodies at a palaeo-water table within the KNP (late stage supergene enrichment). This material is particularly well developed at Goongarrie South.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The drill hole data relating to the resource estimates reviewed in this study are all previously reported results. No new drilling has taken place since 2008. Ongoing studies for these prospect areas are focused on the metallurgical characteristics of the mineralisation and development of new process technology. Drill hole collar, geology and assay data for each prospect area investigated in this study are provided in the Vale Inco Pre-feasibility Study, 2009 and Heron Yerrilla Pre-feasibility Study, 2010.
Drill hole Information	<ul style="list-style-type: none"> If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> N/A
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. 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. 	<ul style="list-style-type: none"> Most drill hole samples have been collected over 2m down hole intervals. Assay compositing completed for each deposit in preparation for statistical analysis and grade estimation was conducted using length weighted averaging of the input assay data by corresponding sample lengths. Typically a 2 compositing length was used aligned with the dominant sampling interval used for drill sample collection. No metal equivalent calculations have been used in this assessment.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> 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 (e.g. 'down hole length, true width not known'). 	<ul style="list-style-type: none"> The mineralisation of all Heron's nickel laterite resources has a strong global sub-horizontal orientation. The majority of drill holes are vertical. With the exception of local offsets due to slumping, all vertical drill holes intersect the mineralisation at approximately 90 degrees to its orientation. All down hole widths approximate true widths for vertical holes.
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> No new discoveries of nickel laterite mineralisation or cobalt rich areas are presented in this report.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Not applicable to this report. All figures previously reported.
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Not applicable to this report.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. 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. 	<ul style="list-style-type: none"> There is planned infill and extensional exploration work by Ardea to be carried out on the nickel laterite resources at Goongarrie South and Black Range as part of a \$1 million PFS (refer Ardea Prospectus section 3.6(e)). Ardea is focusing on developing an improved process route for extraction of cobalt-nickel-manganese ((Lithium Nickel Manganese Cobalt Oxide - LiNiMnCoO₂ or NMC), from the current known resources. This will involve some further metallurgical sampling (including drilling) of the currently known resources.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> Heron employed a robust procedure for the collection of and storage of sample data. This included auto-validation of sample data on entry, cross checking of sample batches between the laboratory and the database and regular auditing of samples during the exploration phase. Sample numbers were both recorded manually and entered automatically. Discrepancies within batches (samples were batched on a daily basis) were field checked at the time of data entry, and resampled if errors could not be resolved after field inspection. HGMC reviewed the set of Microsoft Access data of the drilling information compiled for the Goongarrie South and Big Four deposit areas which was extracted from Ardea's in-house Microsoft Access database. The databases supplied and used were dated July 2015, August 2015 and most recently August 2016. This is the most recent version of the database available Data validation procedures include digital validation of the database on entry (no acceptance of overlapping intervals, duplicate hole and sample ID, incorrect legend information, out of range assay results, incorrect pattern of QAQC in sampling stream, failed QAQC, missing assays, samples and geological logging). At the time of resource modelling all data was visually checked on screen, and manually validated against field notes. All changes to the database were verified by field checks. Ardea undertook a program of drill hole collar survey and validation. All drill holes were surveyed using DGPS with an established base station control stations in the vicinity of the Goongarrie South and Big Four deposit areas.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> The Competent Person, James Ridley, is a previous employee of Heron Resources from 2004 to 2011 and has visited all of the KNP prospect areas. The drilling, sampling and geological practices were standardized for all deposits. RC drilling was generally effective, although there were some minor localised issues with sampling accuracy of wet puggy clays. Overall procedures were robust, including data entry, for the RC drilling, and where tested, repeatable by alternate drilling methods. The Competent Person, Ian Buchhorn, is a current employee of Heron Resources and has acquitted and visited all of the KNP prospect areas. No comment can be made on the validity of historic work by Helix, WMC and Anaconda, except to say that infill drilling has broadly similar results to the historic data. Due diligence by Ian Buchhorn at the time of acquisition by Heron confirmed acceptable QAQC by the various vendors. <ul style="list-style-type: none"> HGMC has carried out a general project and data review in April 2017. The review found that project development and management of data have been given appropriate attention. All of the previous drilling data and resource estimation work was also reviewed and found to be of a high standard

Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> There is a strong correlation between the geology of adjacent drill holes in all of the resources. There is also a strong global correlation between weathering profile, lithology and mineralisation intensity. On a local scale the changes in weathering profile is often discrete, but of a complex geometry. There is good confidence overall in the geological model, and this has been confirmed at Jump Up Dam by the trial mining of 20,000 tonnes of mineralisation. A combination of geological logging and assay data has been used to sub divide the mineralisation into high-iron and high-magnesium mineralisation types, within a mineralised domain. High-carbonate domains have also been defined. High-silica domains were more problematic to define, and further work is required on developing this geo-metallurgical domain. The continuity of mineralisation is strongly controlled by bed rock alteration and palaeo water flow within the ultramafic host units. Areas of deep fracturing and water movement within the bedrock typically had higher grade and more extensive mineralisation in the overlying regolith. In the proximity of geological contacts between the ultramafic hosts and surrounding mafic and felsic lithologies there is often a distinctive increase in grade and widths of mineralisation, including the development of mineralisation along fracture planes in the adjacent felsic and mafic units. Where the host regolith overlies olivine adcumulate lithologies there is an increase in siliceous material and a loss of the high magnesium mineralisation horizon. In areas where the host ultramafic was altered to talc, or talc-carbonate lithologies there was no development of nickel mineralisation in the regolith. These areas typically formed along shears, and sheared contacts within the bedrock. Two sets of Mineralisation domains ('high and low' grade' were developed using a combination observed geological logging information and assay data. The mineralised envelopes for Goongarrie South and the Big Four Areas were based on drill intercepts of nominally >0.05% Co or >0.10% Co using maximum of 2m (2 samples) internal dilution. The logged geology and the local cobalt percentage (>0.05% or >0.10% Co) was used as a guide for the wireframes. The mineralised zone wireframes were extrapolated to the edges of the drilling along and perpendicular to the strike to maintain geological consistency. The majority of detailed logging of RC drill chips and diamond core logging information from drill programs completed during the years 1999 to 2008 was transferred to geological logging database and this has provided a robust control for geology and material type interpretation and resource wireframe generation. All mineralised envelopes were aligned with the known interpreted mineralisation trend. No obvious fault systems were interpreted to off-set mineralisation trends to a significant amount.
Dimensions	<ul style="list-style-type: none"> The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource. 	<ul style="list-style-type: none"> Resource dimensions vary between deposits. The total length of the main Goongarrie South cobalt mineralisation domains is approximately 7,400 metres with observed widths of approximately 400 and up to 1000 metres. Several semi-parallel Mineralisation zones are observed are with variable thicknesses typically in the order of 5-20 metres thick with some zones being up to and exceeding 50 meters thick in the area referred to as the Pamela-Jean zone. Interpreted mineralisation has been modelled from near topographic surface (378mRL) down to approximately the 220m RL (approximately 160m vertical from surface). The total length of the main Big Four Area cobalt mineralisation domains is approximately 7,700 metres with observed widths of approximately 300 metres. Several semi-parallel Mineralisation zones are observed are with variable thicknesses typically in the order of 5-15 metres thick with some zones being in the range of 20 to 40 metres thick. Interpreted mineralisation has been modelled from near topographic surface (380mRL) down to approximately the 298m RL (approximately 80m vertical from surface).
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). 	<ul style="list-style-type: none"> The Goongarrie South and Big Four deposits were Ordinary Kriged (OK), using variography of the domained Co shells for Co% and Mn(ppm) Deposits were estimated using MineSight® software. Block sizes for both the Goongarrie South and Big Four models based on drill spacing and deposit geometry as follows <ul style="list-style-type: none"> 40 x 40 x 4 metre Goongarrie South 20 x 40 x 4 metre Big Four (Uniform Block Size – No Sub-Blocks) All models used a zone code with an associated block percentage sub-division (1% precision) to maintain accurate volume reporting.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i> <i>Any assumptions behind modelling of selective mining units.</i> <i>Any assumptions about correlation between variables.</i> <i>Description of how the geological interpretation was used to control the resource estimates.</i> <i>Discussion of basis for using or not using grade cutting or capping.</i> <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i> 	<ul style="list-style-type: none"> Ni and Co are the principal economic minerals. The Ni was not interpolated in the May 2017 resource model revision. Co and Mn only were the items re-interpolated. Ardea is aware Fe has the potential to be an economic mineral under some processing options being assessed. MgO, FeO, Al₂O₃ and SiO₂ are all important minerals in the classification of the different geo-metallurgical styles of mineralisation for both materials handling and metallurgical extraction processes. All have been retained from previous modelling of Goongarrie South and Big Four and are incorporated into the current (May 2017) block models. The domain boundary for mineralisation is the same for all deposits with a step change in nickel grades being modelled at the 0.05% Co and the 0.10% Co levels, The two grade defined mineralisation domains were geostatistically analysed and modelled separately. Additional internal domains relating to the high-iron, and high-MgO domains were retained from previous modelling and define the upper and lower portions of the mineralised weathering profile. These domains are usually separated by a sharp (although often geometrically complex) geological boundary. (Note: for some deposits only one or other geochemical domain is present). Depending on results of the variography, the Co grades was modelled in conjunction with the ancillary and related element manganese within the cobalt wireframe shells. The following parameters at Goongarrie South and Big Four were used: a parent block size of 40.0mE x 40.0mN x 4.0mRL; minimum and maximum number of composites of 1 and 24; no sub-blocking or discretisation (all domains). One search passes were used for interpolation of grade into the blocks of each AREA domain. Any un-estimated blocks were left 'as is' and did not contribute to material accounting. Hard boundaries were applied between all estimated domains. No detailed assumptions have been made with regard to modelling of selective mining units, except future mining is expected to be using standard excavator and truck methods. The block sized utilised is in line with the general mining method assumptions Refer to the Data Aggregation Methods criteria in Section 2 above. A range of outlier grade restriction was applied to all mineralised wireframes within given AREA domains. The influence of extreme grade values was examined utilising top cutting analyst tools. (grade histograms, log probably plots and coefficients of variation). Some non-assayed intervals are present in the database. These have been interpreted as non-mineralised intervals and assigned zero grade for the purposes of block grade estimation. In situations where non-mineralised intervals are included within broader mineralised intervals these non-mineralised intervals are assumed to be mineralized, but grade level unknown. Interpolation from available from appropriately proximal data permitted in the interpreted zones concerned. Model validation for both the Goongarrie South and Big Four deposit block models was carried out graphically and statistically to ensure that the block model grades accurately represent the input drill hole data. A number of methods were employed to validate the block model including: global mean comparison; visual comparison; trend plot comparison. The global mean comparison between drill composite grades and model grades within each of the mineralised zone wireframes shows that, globally, the estimates validate well within all well-informed domains for both deposits. Cross sections were viewed on-screen and showed a good comparison between the drill hole data and the block model grades. A volume comparison between the volume of the block model cells within each mineralised zone and the volume of the corresponding wireframe. The results of volume checking were as in previous models within acceptable limits.
Moisture	<ul style="list-style-type: none"> <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i> 	<ul style="list-style-type: none"> All tonnages reported are dry tonnes for all models. Dry density was determined from drill core and down hole gamma for the Jump Up Dam, Scotia, Highway and Goongarrie deposits. This dry tonnage was applied to the other deposits on a material type basis (see Bulk Density for more details).
Cut-off parameters	<ul style="list-style-type: none"> <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i> 	<ul style="list-style-type: none"> The 0.05% and 0.10% Co cut-offs used for the wireframe domains of the deposits was based on two observed step changes in the probability distribution of the cobalt grades across the drill holes as well as general spatial distribution of those grades. Previous routine Mineral Resource reporting by Heron has used a 0.5%Ni cut-off grade applied to the resource block models. Additionally, a 0.08% Co reporting lower cut-off has been adopted for reporting cobalt resources. These cut-off levels are commonly used for resource reporting for typical Nickel Laterite deposits.

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		<ul style="list-style-type: none"> HGMC has produced block model grade shells using a 0.08% Co cut-off and a 'Quality of Estimate' parameter which is used to provide constraints for updated Mineral Resource with emphasis on coding regions of continuous cobalt mineralisation. These cobalt rich areas are of particular interest to Heron as a potential source cobalt-nickel-manganese feed-stocks for the lithium ion battery industry.
Mining factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made. 	<ul style="list-style-type: none"> Open pit mining via conventional dig and haul with minimum blasting is assumed for all deposits. Given the lateral extent of the models the selective mining unit SMU is likely to be smaller than the 40mx40mx4m blocks used to develop the new Goongarrie South and Big Four block models. For the purposes of removing unlikely to be economic resources from the resource statement, Auralia Mining Consultants carried out a Whittle optimization of the Goongarrie South and Big Four deposits using an US\$10,000 per tonne nickel and a US\$55,000 per tonne cobalt price. Estimated Mining and processing costs, along with royalty and recovery factors were also updated by Auralia Mining Consultants for this process. The evaluation was carried out on the Kriged nickel and cobalt grades only.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made. 	<ul style="list-style-type: none"> The KNP Projects including the Goongarrie South and Big Four deposits are both subject to ongoing metallurgical studies. Processes being considered include, heap leaching, vat leaching, high pressure acid leaching, screen upgrades prior to leaching and pyrometallurgical methods. All methods are capable of processing Nickel Laterite ore types into saleable products and are currently in use at different deposits across the world. The current focus of studies into a preferred metallurgical approach is on atmospheric acid leaching methods with a particular focus on improving the recovery of reagents during processing to improve unit costs.
Environmental factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<ul style="list-style-type: none"> It is expected that waste rock material will largely be disposed of inside previously completed pits during the life of mine. Tailings disposal will consist of a mixture of conventional tailings dams and disposal in mined out pits. As all of the material mined will be of an oxidized nature and as such there is not expected to any acid generating minerals in the waste rock material. The processed tailings will need to be neutralized or recovered from the tailings stream prior to disposal in waste storage facilities. The expected land forms at the conclusion of the project will be of similar profile to the current land forms. Environmental studies for the project have been started with base line surveys for flora and fauna. However, as the final process route is currently subject to research, the final environmental plans are yet to be developed. It is reasonable, given the existing nickel laterite operations in WA, that all environmental issues can be resolved and it will be possible to mine the resources within current environmental guidelines.
Bulk density	<ul style="list-style-type: none"> Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	<ul style="list-style-type: none"> Bulk densities were measured for Goongarrie by both gamma down hole measurements, weight of recovered core versus drilled volume and wet/dry density measurement of drill core. Both the wet/dry and weight of recovered core methods include voids in the density assessment. The three measurements all gave similar reading for the in-situ density of the material (including any moisture within the in-situ material). Changes in mass were recorded for the recovered core between its as drilled mass, and mass after kiln drying to apply moisture content to the density measurements producing a dry density for resource estimation purposes. The variance in measured dry density was between 1.3 and 2.05/m³ for all material types. Most of the mineralisation lies within the 'clay' material which has a dry density of between 1.30 and 1.33t/m³. Densities were assigned to material based on the geochemical material classification scheme for each of the deposits. Bulk densities for the Big Four deposit was not measured in the field. Densities were based on and adopted from the measurements for Goongarrie South and similar nearby areas. These are considered a valid application as there is a similar geology match for both of these deposits, using either the geochemical material classification scheme. Where samples or ancillary assays were not numerically sufficient for classification, the average density for clay material was applied. HGMC has reviewed all previous bulk density assignment work and preserved this for use in the new block models
Classification	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, 	<ul style="list-style-type: none"> Classification was approached in the same manner for both the Goongarrie South and Big Four deposits. All classification of resource estimates were based on a combination of drill hole spacing, number of composites, kriging variance and the ranges of mineralisation continuity (developed from variography studies). All these classification parameters were derived

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit. 	<p>as a part of the ordinary kriging interpolation process applied to the cobalt estimates. These parameters were condensed into a 'Quality of Estimate' QLTY=1, 2 or 3) precursor reporting item</p> <p>QLTY=1</p> <ul style="list-style-type: none"> Drill spacing of 20x40 metre or less. Assays – Co only available for classification. Search ellipsoid distances 0-60m. Composite numbers 0-10. Kriging Variance 0 - 0.004. (Goongarrie South), and 0 - 0.005 (Big Four), <p>QLTY=2</p> <ul style="list-style-type: none"> Drill spacing of 20x40 metre to 80x80 metre (depending on deposit and variography results). Assays – Co only available for classification. Search ellipsoid distances 60-100m. Composite numbers 10-15. Kriging Variance 0.004-0.008 (Goongarrie South), and 0.005-0.010 (Big Four), <p>QLTY=3</p> <ul style="list-style-type: none"> Drill spacing of 20x40 metre to 80x80 metre (depending on deposit and variography results). Assays – Co only available for classification. Search ellipsoid distances 100m or greater distances. Composite numbers 15 or greater numbers. Kriging Variance 0.008 or greater (Goongarrie South), and 0.010 (Big Four), <p>Classification – RCAT=1(Measured), 2(Indicated) & 3(Inferred)</p> <ul style="list-style-type: none"> These three QLTY item parameters were further condensed into an unbiased RCAT item describing the confidence of the localized resource base in the block model. Preliminary Resource Classification Item – (RCAT) Values 1-3 – (Nominally 'Meas', 'Ind' and 'Inf' [(1), 2 or 3] – For Goongarrie South QLTY=1 material is designated as Indicated Resources (RCAT=2) with the remaining QLTY = 2 and 3 material being combined and reporting as Inferred Resources. (RCAT=3). Some Measured resources for Goongarrie South are also designated at this time and specifically it is a relatively small volume of material which has originally been classified as RCAT=2 but also corresponds with a small area within AREA domains 4 and 5 where high density drilling is present on a 20x20m drilling grid. For the Big Four Area, all QLTY=1 material is designated Indicated Resources (RCAT=2) with the remaining QLTY = 2 and 3 material being combined and designated as Inferred Resources. (RCAT=3).
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Mineral Resource estimates. 	<ul style="list-style-type: none"> The previous resource estimates for Goongarrie South and Big Four generated in-house by Heron and Ardea have been validated against previous models created by Snowden. All models have been checked by Heron and Ardea are considered to be reasonable estimates of resources given the level of confidence applied to each model.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence 	<ul style="list-style-type: none"> The resource as reported from the Goongarrie South and Big Four block models provide reasonable global estimates of the available cobalt (and nickel) resources. Models have been validated visually against drilling for both the recoverable minerals cobalt and nickel. Overall the modelled resources present a very reasonable global estimate of the resources for Co and Ni.

Criteria	JORC Code explanation	Commentary
	<p><i>of the estimate.</i></p> <ul style="list-style-type: none"> • <i>The statement should specify whether it relates to global or local estimates,</i> • <i>and, if local, state the relevant tonnages, which should be relevant to</i> • <i>technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i> • <i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i> 	