Ardea Resources Limited
ACN 614 289 342

and

Heron Resources Limited
ACN 068 263 098

1 Important Information

This is a supplementary prospectus (**Second Supplementary Prospectus**) intended to be read with the prospectus dated 9 November 2016 (**Prospectus**) and supplementary prospectus dated 18 November 2016 (**First Supplementary Prospectus**) issued by Ardea Resources Limited (**Ardea** or the **Company**) and Heron Resources Limited (**Heron**).

This second Supplementary Prospectus (**Second Supplementary Prospectus**) is dated 6 January 2017 and was lodged with the Australian Securities and Investments Commission (**ASIC**) on that day. ASIC, ASX Limited (**ASX**) and their respective officers do not take any responsibility as to the contents of this Second Supplementary Prospectus.

Other than as set out below, all details in relation to the Prospectus remain unchanged. To the extent of any inconsistency between this Second Supplementary Prospectus, the Prospectus and the First Supplementary Prospectus, this Second Supplementary Prospectus will prevail. Unless otherwise indicated, terms defined and used in the Prospectus have the same meaning in this Second Supplementary Prospectus.

This Second Supplementary Prospectus will be issued with the Prospectus and the First Supplementary Prospectus as an electronic prospectus and may be accessed on the Company's website at www.ardearesources.com.au.

This is an important document and should be read in its entirety. If you do not understand this document, you should consult your professional advisors without delay.

2 Corporate and Project Updates

As previously announced to ASX:

2.1 Extension of Closing Date to 20 January 2017

The extension allows:

- Ardea an opportunity to raise further funds in excess of the minimum amount; and
- the retention of OnMarket Bookbuilds to assist with maximising funds raised under the capital raising, particularly geared to their clients seeking cobalt exposure.

Details regarding the extension of Closing Date are outlined in Heron's ASX announcement dated 23 December 2016 which forms Schedule 1 to this Second Supplementary Prospectus.

2.2 KNP Cobalt Zone – Premier Cobalt Resource in Australia, 49.7Mt at 0.11% cobalt and 0.9% nickel

Ardea has completed an independent Resource Statement for the cobalt-rich portions of the Kalgoorlie Nickel Project (**KNP**).

The **KNP Cobalt Zone** is a key element of Ardea's IPO and listing on ASX:

- The KNP Cobalt Zone with **49.7Mt at 0.12% cobalt and 0.86% nickel** is a significant world resource of "ethical cobalt" (in contrast to a portion of world supply sourced from the Democratic Republic of the Congo);

- The full KNP with 805Mt at 0.05% cobalt and 0.7% nickel[1] (refer Prospectus pages 84-87 and the First Supplementary Prospectus) is by far the largest cobalt resource documented for an ASX-listed Australian mineral explorer; and
- allows Ardea the opportunity to focus on a Pre-Feasibility Study on the high grade KNP Cobalt Zones and aligning the Company to the high-tech lithium ion battery sector.

Details regarding the Kalgoorlie Nickel Project - Cobalt Zone are outlined in Heron's ASX announcement dated 6 January 2017 which forms Schedule 2 to this Second Supplementary Prospectus.

2.3 Project Update – KNP Cobalt Zone and Lewis Ponds Bulk Tonnage Exploration Target

Based on recent field work and financial modelling subsequent to lodging the Ardea Prospectus, Ardea has completed new resource interpretations and forward programs for its key projects:

- The full KNP with 805Mt at 0.05% cobalt and 0.7% nickel (refer Prospectus pages 84-87 and the First Supplementary Prospectus) is the largest cobalt resource documented in Australia, and in addition;
    - The KNP Cobalt Zone with 49.7Mt at 0.11% cobalt and 0.9% nickel is a significant world resource of "ethical cobalt"; and
    - Occurrences of the semi-precious gemstone chrysoprase within the KNP have for the first time been systematically evaluated as a bulk mining operation.
- At the Lewis Ponds project a bulk tonnage Exploration Target was defined;
    - Significant base metal-gold open-pit potential, with orogenic gold and base metal mineralisation defined which is very similar to other bulk tonnage deposits in the region (refer Prospectus pages 9-10, 43-48, 83 and the First Supplementary Prospectus); and
    - The Lewis Ponds Main Zone and Tom's Zone main shaft mullock have been sampled by Ardea and returned assays of 9.9–12.1g/t gold and 272–539g/t silver.
- New tenement applications complementing existing Ardea projects
    - Lewis Ponds, NSW – several EL applications secured and already recommended for grant; and
    - Bedonia West and Perrinvale, WA – high quality Ni-Cu-PGM targets acquired.

Details regarding the Project Update are outlined in Heron's ASX announcement dated 6 January 2017 which forms Schedule 3 to this Second Supplementary Prospectus.

3 Consents

Ridley Mineral Resource Consulting Pty Limited (RMRC) consents to the inclusion of the resource statement for the KNP Cobalt zones in the form and context in which it is included. RMRC has not withdrawn this consent before this Second Supplementary Prospectus was lodged with ASIC.

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

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

Mr Ian Buchhorn consents to the inclusion of an exploration target for Lewis Ponds and exploration results for other Ardea projects in the form and context in which it is included. Mr Buchhorn has not withdrawn this consent before this Second Supplementary Prospectus was lodged with ASIC.

4 Directors' Authorisation

This Supplementary Prospectus is issued by the Company and Heron and its issue has been authorised by a resolution of the directors of both the Company and Heron (**Consenting Directors**).

In accordance with section 720 of the Corporations Act, each Consenting Director has consented to the lodgement of this Second Supplementary Prospectus with ASIC.

Dated: 6 January 2017

Matthew Painter
Managing Director

On behalf of Ardea Resources Limited

Ian Buchhorn
Executive Director

On behalf of Heron Resources Limited

Schedule 1

Announcement - Extension of Ardea IPO Closing Date to 20 January 2017

lodged 23 December 2016

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ABN: 30 068 263 098

Heron Resources Limited

ASX/TSX Release

23 December 2016

Heron spin-off – Ardea Resources Limited
Demerger Update

Heron Resources Limited ("Heron") provides the following update on the de-merger of **Ardea Resources Limited** ("Ardea"), as disclosed in the prospectus ("Prospectus") lodged with the Australian Securities and Investments Commission on 9 November 2016 and Supplementary Prospectus lodged 18 November 2016:

- Ardea has continued to advance its projects and will provide a market update shortly.
- Investor feedback has focussed on Ardea's cobalt potential within the KNP and the bulk mining potential of the Lewis Ponds project.
- Ardea has received applications and firm commitments exceeding the $3.5 million minimum amount to be raised, with applications received from in excess of 150 investors.
- To allow Ardea an opportunity to raise further funds in excess of the minimum amount, Ardea's Board has extended the Offer closing date to 20 January 2017.
- OnMarket Bookbuilds has been retained to assist with maximising funds raised under the capital raising, particularly geared to their clients seeking cobalt exposure.

The updated timetable as follows:

Closing Date	20 January 2017
Issue of holding statements to both eligible Heron shareholders under the distribution and applicants under the Prospectus	2 February 2017
Commencement of trading of Ardea Shares on ASX	9 February 2017

The above timetable is indicative and may change, subject to the Corporations Act and Listing Rules. In particular, Ardea may elect to close the Offer early, and for that reason investors are urged to lodge their application for Ardea Shares without delay.

Ardea Share Applications:

A copy of the Prospectus and Second Supplementary Prospectus is available at www.ardearesources.com.au or by contacting Ardea's company secretary Mr Sam Middlemas on +61 8 6500 9200. Anyone considering investing should read the Prospectus in its entirety before deciding whether to invest. Applications can only be made via the application form which is in or accompanies the Prospectus.

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

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

Schedule 2

Announcement – Kalgoorlie Nickel Project - Cobalt Zones

lodged 6 January 2017

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Heron Resources Limited

ASX/TSX Release

6 January 2017

Ardea Resources Limited

KNP Cobalt Zone – Australia's Premier Cobalt Resource

Heron Resources Limited (**Heron** or **Company**) is pleased to advise that its wholly owned subsidiary, Ardea Resources Limited (**Ardea**), has completed an independent Resource Statement for the cobalt-rich portions of the Kalgoorlie Nickel Project (**KNP**). The **KNP Cobalt Zone** is a key element of Ardea's IPO and listing on ASX, planned for February 2017.

The new estimate for the KNP Cobalt Zone is **49.7Mt at 0.12% cobalt and 0.86% nickel**, occurring within three separate KNP centres (Table 1). The global cobalt resource for the full KNP remains unchanged at **805Mt at 0.05% cobalt and 0.7% nickel** using a 0.5% Ni cut-off grade[1].

Ardea completed a review of the KNP in late 2016, concluding that the KNP as a whole comprises **Australia's and the developed world's largest cobalt resource**[2].

The KNP Cobalt Zone is located 50-150km north and northeast of Kalgoorlie in Western Australia (Figures 1 & 2), a favoured investment jurisdiction with excellent infrastructure that can facilitate **ethical cobalt production** for green energy.

Independent firm Ridley Mineral Resource Consulting Pty Limited (**RMRC**) has reported the following Mineral Resources within the five cobalt-rich prospect areas based on identified zones of continuous elevated cobalt mineralisation using a 0.08 % Co cut-off in these areas:

Table 1 – KNP Cobalt Zone – Resource Statement from RMRC

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

*Estimates for MgO, FeO, Al_2O_3, SiO_2, CaO, Mn and Cr are provided for reference only and do not constitute Mineral Resources
Goongarrie South, Big Four and Scotia Dam are effectively a contiguous mineralized belt

[1] See Annexures 1 and 2 for full KNP categories. The breakdown for the full KNP resource categories is as follows:

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

[2] *By contained cobalt metal. Source of data: SNL Metals & Mining database (www.snl.com)*

Vale Inco[3] completed a $34.5 million Pre-Feasibility Study (PFS) on the KNP in 2009 concluding that it is "**one of the most prospective nickel laterite tenement packages in the world**" and "**the KNP tenements form one of the largest potential nickel laterite deposits in the world**".

RMRC has prepared the 2017 updated Resource Statement using modified reporting criteria for cobalt abundances in existing resource models that were previously prepared by Snowden Mining Industry Consultants (Snowden) and Heron.

This update describes the current publicly reported Mineral Resources for five prospect areas within the KNP known to contain cobalt-rich mineralisation. Two of the estimates, completed by Snowden in 2004, formed part of Heron's early assessment of the Scotia Dam and Black Range prospect areas.

Estimates for the Goongarrie South and Big Four prospects were completed by Heron in 2009 as part of a KNP PFS update following an initial PFS completed by Vale Inco in 2009. The current estimate for Aubils was by Heron in 2008 as part of feasibility assessment of the Yerilla Nickel Project.

The KNP Cobalt Zone is associated with a distinctive geo-metallurgical type defined as "Clay Upper Pyrolusitic". Mineralogy is goethite, gibbsite and cobaltian pyrolusite (strictly "asbolite" or "cobaltian wad"). Each of the cobalt-rich zones typically occurs as a sub-horizontal body (Figure 4) at a palaeo-water table within the KNP (and developed as a late stage supergene enrichment). This material is particularly well developed at Goongarrie South, which will be the focus area for Ardea's cobalt development studies.

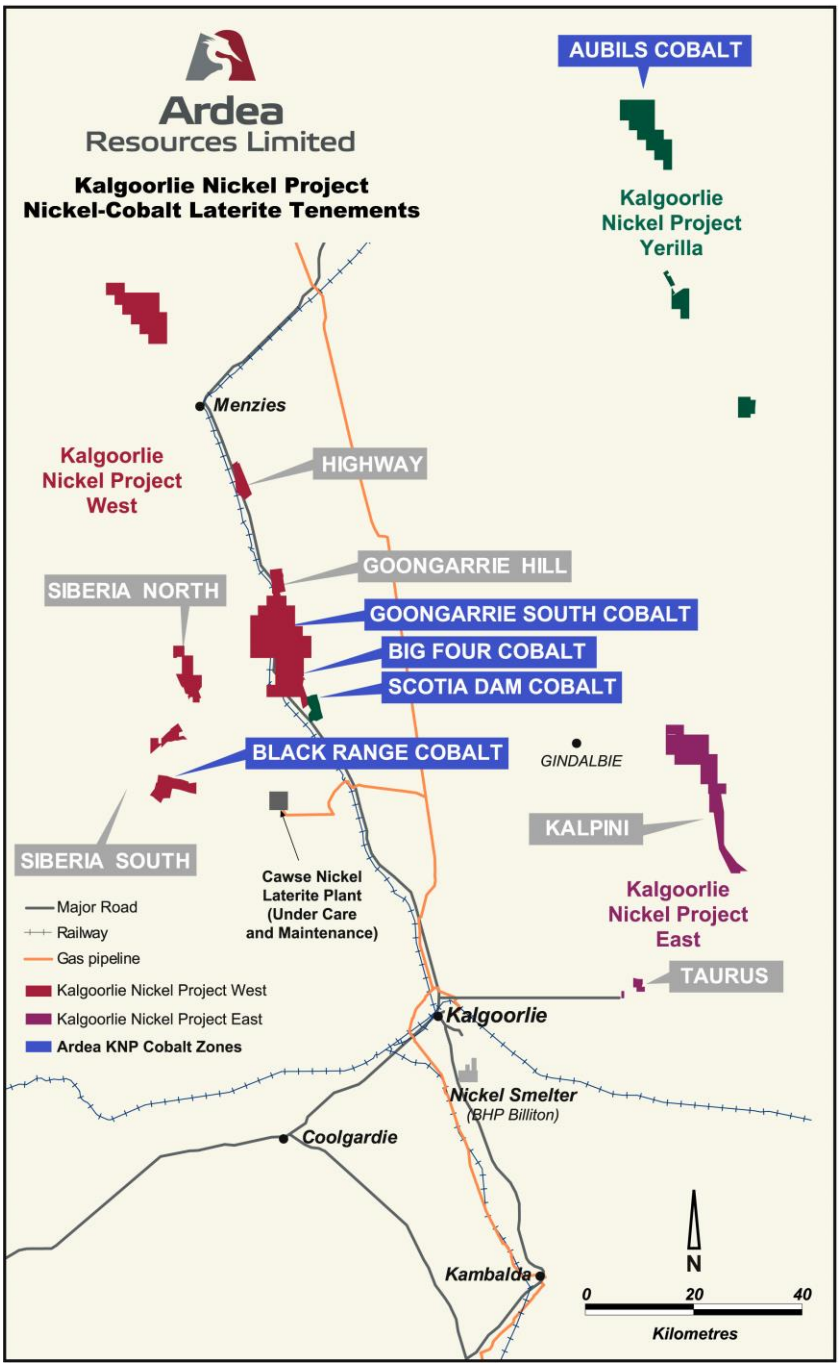

Figure 1 – Ardea Resources Limited, Kalgoorlie Nickel Project showing KNP Cobalt Zones reviewed by RMRC

[3] *Vale Inco has not consented to the use of the PFS in this announcement.*

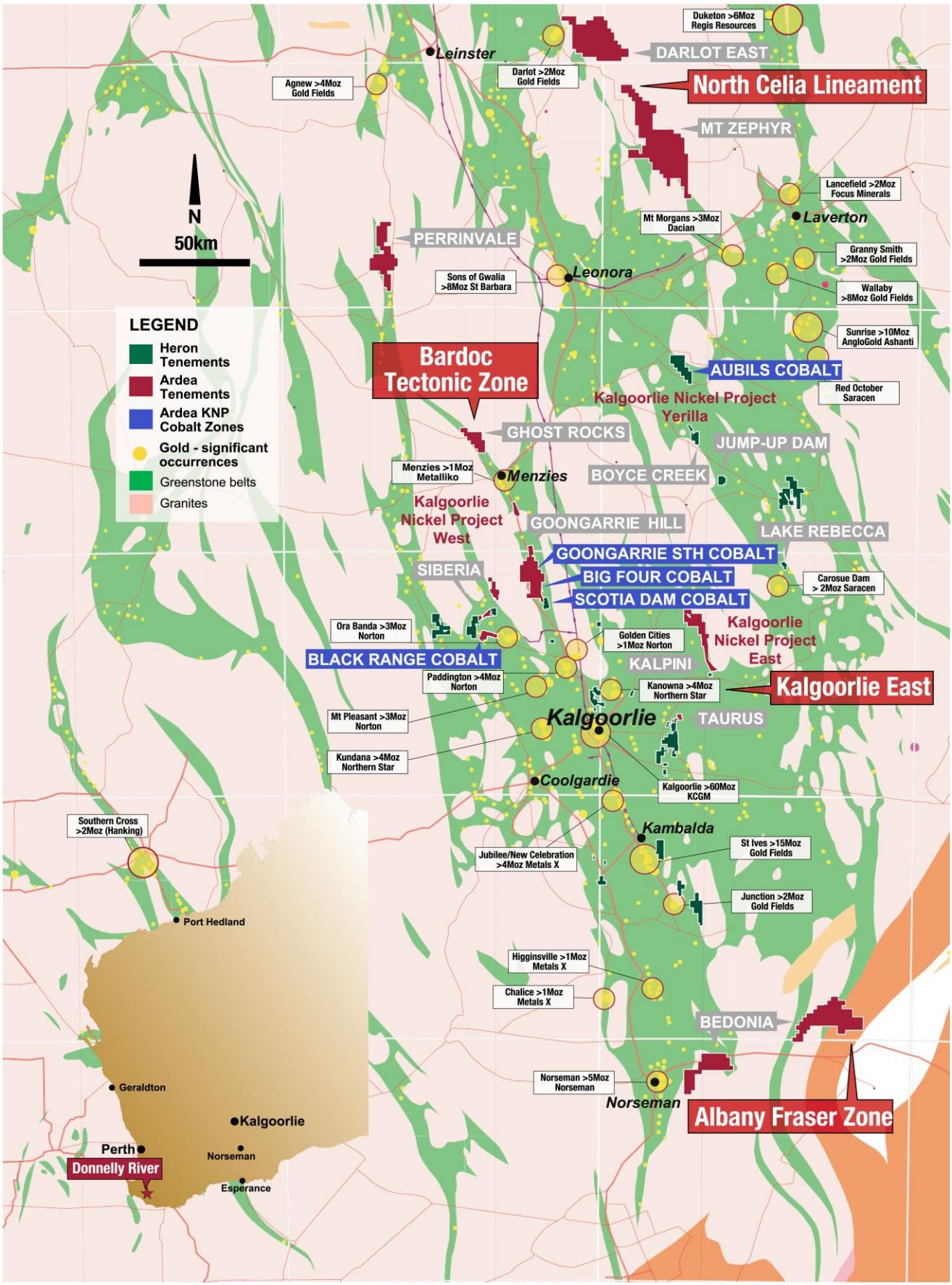

Figure 2 – Ardea Resources Limited, Project Locations showing KNP Cobalt Zones and regional infrastructure

Based on the contained cobalt metal within the deposit, the KNP is Australia's largest cobalt deposit (Table 2, Figure 3). By this measure, it is more than three times larger than Australia's second largest cobalt deposit. The newly-defined cobalt resource from the high-grade KNP Cobalt Zone is a subset within the larger KNP resource, and the subset by itself is Australia's fourth largest cobalt resource. The KNP Cobalt Zone also is amongst the highest cobalt grades in Australia (Tables 2 & 3). In terms of global cobalt resources, the KNP is the premier resource within stable western jurisdictions.

The updated resource reporting for cobalt-rich zones provides a basis for KNP remodelling work planned by Ardea that is focused on cobalt grade shells. Quantifying the cobalt-rich mineralisation at the KNP marks the first part of a refocussing for the KNP onto the cobalt component of the deposit.

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

Table 2 – Ardea Benchmarks, ASX-listed companies ranked by contained cobalt metal

	Company	Size (Mt)	Co (%)	Co metal (kt)	Project	Mineralisation style
1	**Ardea Resources**	**805**	**0.05%**	**386.4**	**Kalgoorlie Nickel Project, WA**	**Laterite Ni-Co**
2	CleanTeq Holdings	109	0.10%	114	Syerston, NSW	Laterite Ni-Co-Sc
3	GME Resources	108	0.06%	65.1	NiWest Project, WA	Laterite Ni-Co
4	**Ardea Resources**	**50**	**0.12%**	**59.6**	**KNP Cobalt Zone, WA**	**Laterite Co-Ni-Mn**
5	Conico Limited	32	0.12%	39.3	Mt Thirsty, WA	Laterite Ni-Co
6	Cobalt Blue Hlding	36	0.08%	30.0	Broken Hill, NSW	Co sulphide
7	Regal Resources	4	0.72%	29.1	Kalongwe, DRC	Cu-Co sulphide
8	Havilah Resources	18	0.10%	17.5	Mutooroo, NSW	Cu-Co sulphide
9	CuDeco Limited	57	0.03%	16.7	Rocklands, Qld	Cu-Au-Co sulphide
10	Mithril Resources	27	0.05%	13.4	Leaky Bore, NT	Cu-Co sulphide
11	Platina Resources	9	0.15%	12.6	Owendale, NSW	Laterite Ni-Co-Sc
12	Independence Gp	14	0.08%	11.4	Nova-Bollinger, WA	Ni-Cu-Co sulphide
13	Augur Resources	16	0.05%	8.2	Homeville, NSW	Laterite Ni-Co
14	Cougar Metals	10	0.07%	7.1	Pyke Hill, WA	Laterite Ni-Co
15	Hammer Metals	6	0.11%	6.5	Millenium, Qld	Cu-Au-Co sulphide

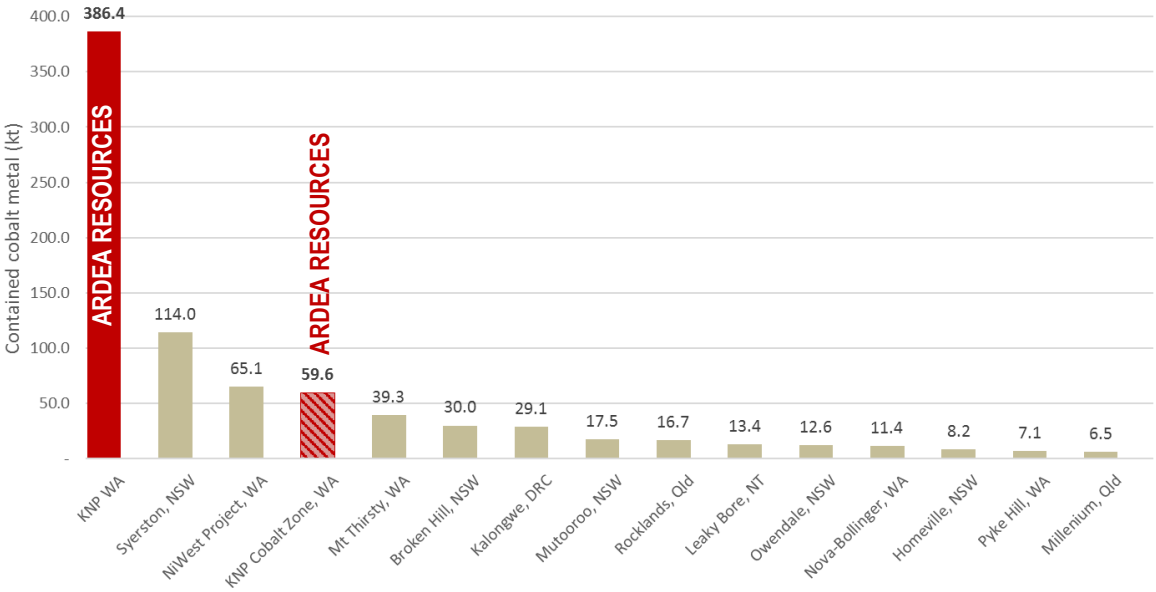

Figure 3 – Ardea Benchmarks, ASX-listed companies ranked by contained cobalt metal

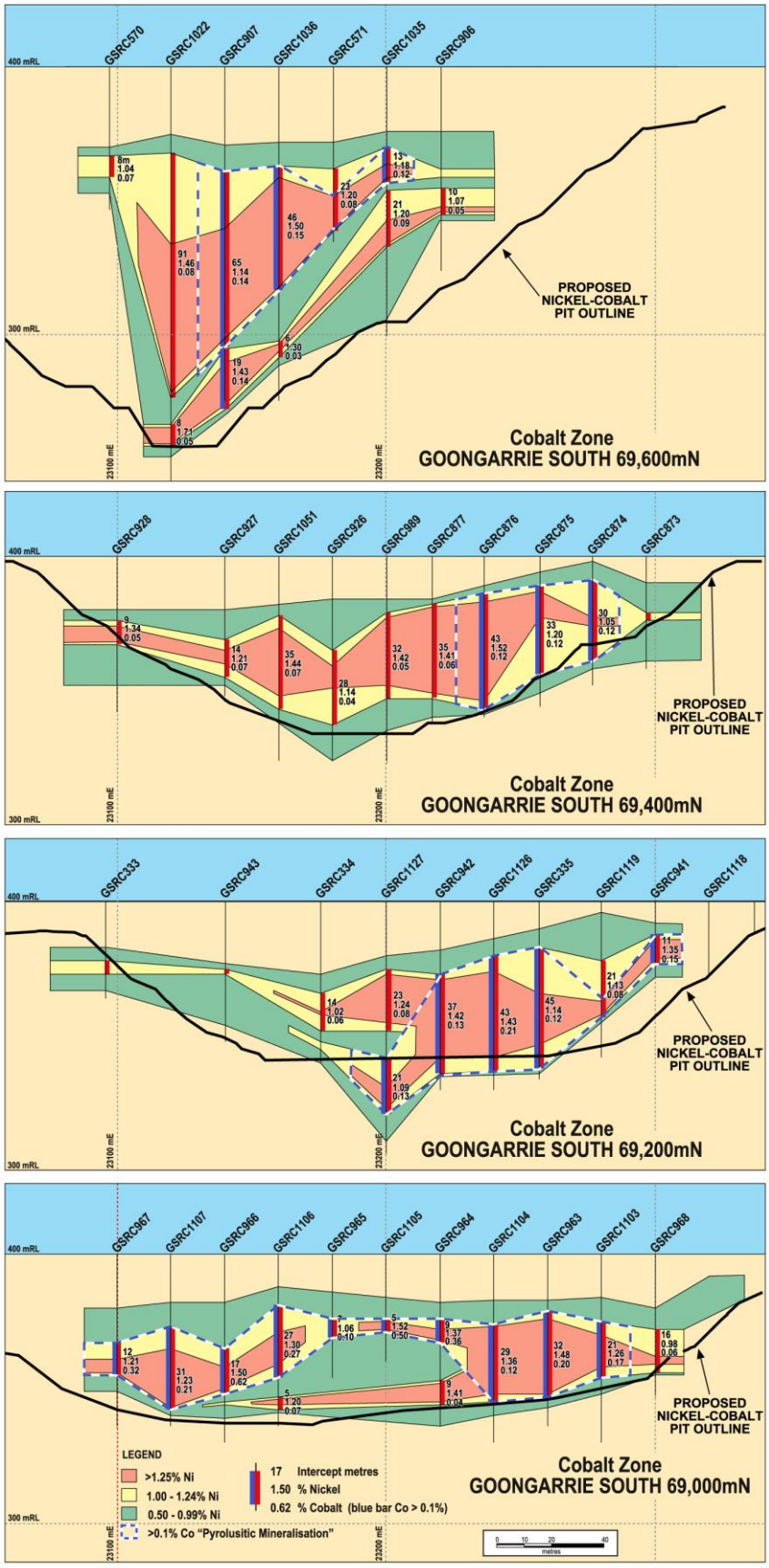

Figure 4 – Ardea Resources Limited, KNP Goongarrie South showing "Pamela Jean Deeps"

Table 3 – Goongarrie South, Scotia and Aubils, Selected High-Grade Drill Intercepts of Pyrolusitic Mineralisation

Hole ID	North (mN)	East (mE)	From (m)	To (m)	Width (m)	Co* (%)	Ni (%)
Goongarrie							
GSRC0002	71600	2080	13	31	18	0.102	1.22
GSRC0036	69200	3120	11	60	49	0.094	1.15
GSRC0043	68400	2790	11	23	**12**	**0.399**	**1.53**
GSRC0049	70800	2560	6	10	4	0.827	0.96
GSRC0063	63606	4166	19	26	**7**	**1.401**	**1.56**
GSRC0160	71199	2401	21	45	24	0.146	1.32
GSRC0197	68798	3040	34	52	**18**	**0.289**	**1.52**
GSRC0204	68004	2801	20	41	21	0.431	1.23
GSRC0259	68239	2721	11	37	26	0.191	1.34
GSRC0276	68478	2640	16	39	**23**	**0.236**	**1.20**
GSRC0309	68719	3043	24	71	**47**	**0.228**	**1.43**
GSRC0317	68879	2960	28	66	**38**	**0.298**	**1.27**
GSRC0319	68878	3123	20	60	40	0.156	1.22
GSRC0330	69040	2718	38	60	22	0.141	1.41
GSRC0335	69038	2718	38	60	22	0.141	1.41
GSRC0346	69119	3119	13	45	32	0.142	1.40
GSRC0354	69280	3038	26	62	36	0.126	1.40
GSRC0363	69360	3121	17	53	36	0.133	1.22
GSRC0420	63757	4322	26	56	30	0.139	1.11
GSRC0562	69440	2320	18	40	**22**	**0.232**	**1.23**
GSRC0577	69520	2480	21	37	**16**	**0.257**	**1.30**
GSRC0672	70637	2855	49	91	**42**	**0.223**	**1.25**
GSRC0724	71440	2454	10	33	**23**	**0.325**	**1.65**
GSRC0870	69356	3236	20	63	43	0.187	1.39
GSRC0898	69680	3140	67	106	**39**	**0.253**	**1.42**
GSRC0907	69600	3140	35	124	89	0.131	1.19
GSRC0924	69440	3220	21	52	**31**	**0.212**	**1.62**
GSRC0966	69000	3140	18	57	**39**	**0.291**	**1.13**
GSRC0970	68960	3140	21	46	**25**	**0.425**	**1.30**
GSRC1022	69600	3120	30	141	111	0.077	1.37
GSRC1025	69640	3120	26	144	118	0.123	1.31
GSRC1032	69680	3160	37	118	81	0.197	1.24
GSRC1040	69520	3160	29	122	93	0.141	1.33
GSRC1100	68960	3160	16	62	**46**	**0.254**	**1.30**
Scotia Dam							
GSRC0068	59203	6010	14	38	**24**	**0.239**	**1.32**
GSRC0076	58800	6169	14	35	**21**	**0.226**	**1.39**
Aubils							
AURC0015	63200	90420	23	34	**11**	**0.320**	**1.04**
AURC0016	63200	90500	38	45	7	0.195	1.14
AURC0037	63200	90880	25	38	13	0.131	1.14

*Grades in excess of 0.2% cobalt highlighted. Detailed reporting covering the above drilling programs and results were released by Heron Resources Limited in its March 1999 to December 2002 Quarterly Reports, which are available on request from Ardea. These drill results were the subject of a JORC 2012-compliant mineral resource released by Heron in October 2013 and provided on pages 85-87 of the Ardea Prospectus dated 9 November 2016.

For further information, please visit www.heronresources.com.au or www.ardearesources.com.au, or contact:
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COMPLIANCE STATEMENT (JORC 2012 and NI43-101)

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

1. *Kalgoorlie Nickel Project on 21 October 2013 and 31 June 2014, 27 August 2015, 2015 Heron Annual Report, 27 October 2016, 2016 Heron Annual Report, Ardea Resources Limited Prospectus 9 November 2016; Ardea Resources Limited First Supplementary Prospectus 18 November 2016.*
2. *Big Four-Goongarrie on 13 March 2012, 26 June 2012 and 24 July 2012.*

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 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 and verified by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a full-time employee of Heron Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

The information in this report that relates to Mineral Resources for the Goongarrie South, Big Four and Aubils Prospects is based on information originally compiled by Mr James Ridley in 2008 and 2009 when employed as a Senior Resource Geologist with Heron Resources Limited. The information in this report that relates to Mineral Resources for the Scotia and Black Range Prospects is based on information originally compiled by Snowden Mining Industry Consultants on behalf of Heron in 2004. The Mineral Resource estimates for all five prospect areas have been reviewed and validated by James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Ridley is now a full-time employee of Ridley Mineral Resource Consulting Pty Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Ridley consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and ability to complete the Ardea spin-out, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information. Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time. Forward-looking information involves significant risks, uncertainties, assumptions and other factors that could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking information.

These factors, including, but not limited to, the ability to complete the Ardea spin-out on the basis of the proposed terms and timing or at all, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Canada, Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

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

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

Annexure 1

REPORT and RESOURCE STATEMENT – KALGOORLIE NICKEL PROJECT, COBALT ZONES

Ridley Mineral Resource Consulting Pty Limited

"Updated Mineral Resource Reporting for Regions of Continuous Cobalt Rich Mineralisation in the Kalgoorlie Nickel Project"

Memorandum

Recipient	Ian Buchhorn	**Recipient company**	Ardea Resources Limited
		Memo date	5/01/2017
Author	James Ridley Director and Principal Geologist – Ridley Mineral Resource Consulting Pty Ltd		
Memo Subject	Updated Mineral Resource Reporting for Regions of Continuous Cobalt Rich Mineralisation in the Kalgoorlie Nickel Project		

Introduction

Ridley Mineral Resource Consulting Pty Ltd (RMRC) has been retained by Ardea Resources Limited (Ardea) to undertake updated Mineral Resource reporting for five prospect areas containing continuous cobalt rich nickel laterite mineralisation in Ardea's Kalgoorlie Nickel Project (KNP) located from 65km to 170km north of Kalgoorlie in Western Australia. The five cobalt rich prospect areas include, Goongarrie South, Big Four, Scotia, Black Range and Aubils which are highlighted in blue in the project location plan displayed in Figure 1.

James Ridley (Ridley), a Director, Principal Geologist and full time employee with RMRC was previously employed as a Senior Resource Geologist with Heron Resources Limited (Heron) from 2004 to 2011 when Heron owned the KNP and has detailed knowledge of the geology, mineralisation, exploration procedures and data, and current resource models for the KNP. Ridley prepared the resource models used by Ardea and Heron for current Mineral Resource Estimate (MRE) reporting for the Goongarrie South (GS), Big Four (BF) and Aubils (AU) prospect areas and is also familiar with the resource models prepared by Snowden Mining Industry Consultants Pty Ltd (Snowden) on behalf of Heron in 2004 which inform current MRE reporting for the Scotia (SC) and Black Range (BR) prospect areas. Ridley has visited all five prospect areas whilst employed by Heron.

Neither RMRC nor Ridley has any vested interest in Heron or their upcoming spinoff Ardea.

KNP Mineralisation Summary

The nickel laterite mineralisation within the KNP 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.

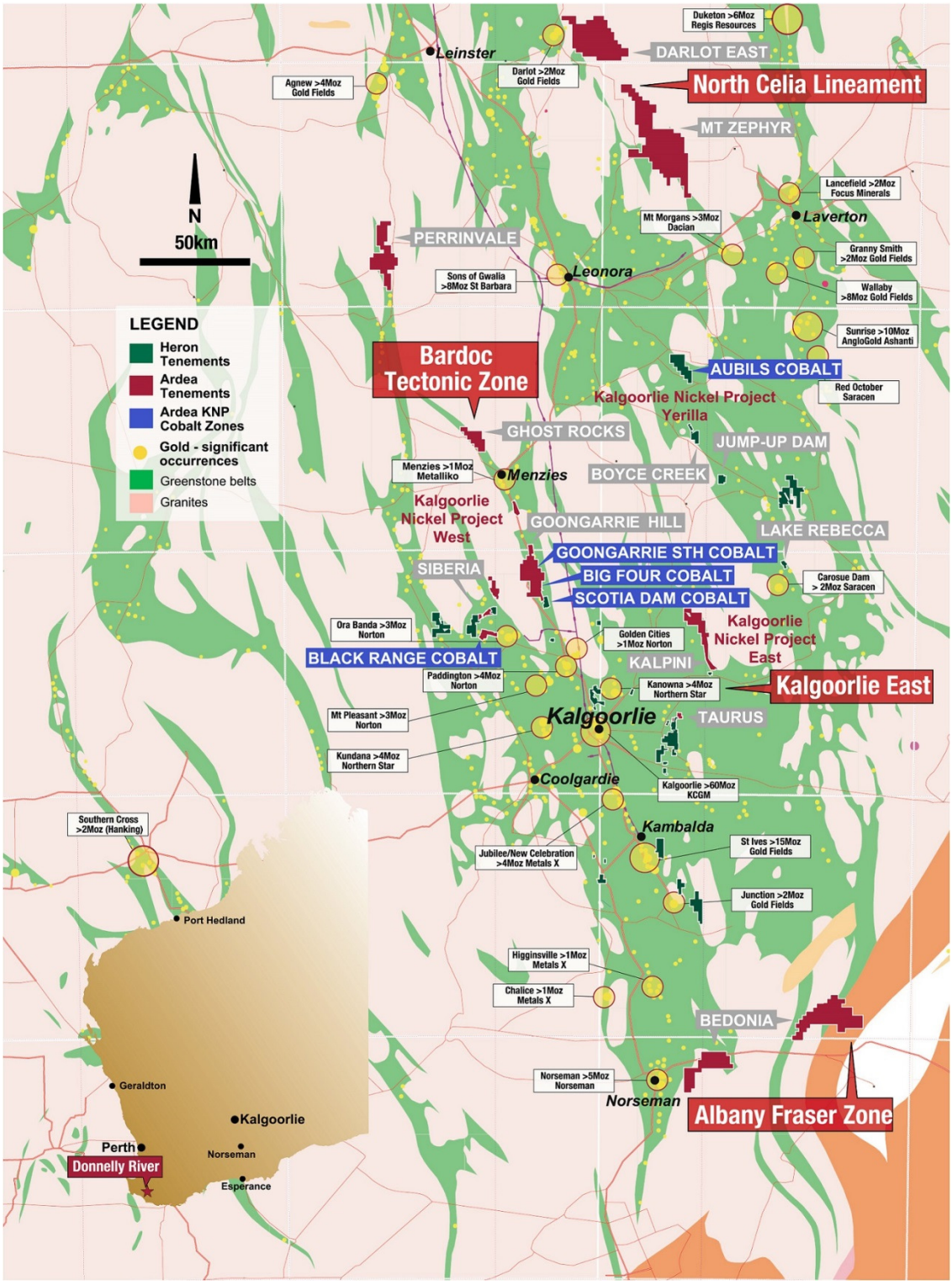


Figure 1: - KNP location plan

Resource Models

The updated MRE reporting is based on resource estimates for the GS, BF, and AU prospects completed in 2008 and 2009 by Heron (Ridley), and estimates for the SC and BR prospects completed by Snowden Mining Industry Consultants Pty Ltd (Snowden) on behalf of Heron in 2004. These resource estimates remain a contributing source to Heron's ongoing Annual Mineral Resource Reporting for the greater KNP through FY 2016, albeit with additional constraints applied and updated reporting documentation produced by Heron in FY13 aligned with updated reporting requirements complying with the implementation of JORC Code 2012. No further drilling or resource modelling work has been undertaken for the KNP subsequent to the resource modelling noted above.

The following resource models (Vulcan software format) were used to inform the updated Mineral Resource reporting for the five cobalt rich prospect areas:

- Goongarrie South (Heron-2009): gsrbm_ikok_trim.bmf
- Big Four (Heron-2009): b4rbm_ikok_trim.bmf
- Aubils (Heron-2008): aubresmod_0608trim.bmf
- Scotia (Snowden-2004): scotia.bmf
- Black Range (Snowden-2004): siberia.bmf

A copy of each model was produced with a '_201612' suffix added to each file name, in which an additional block model variable was added, 'co_res_201612' in which coding relating to cobalt rich mineralisation constraints was assigned.

Resource Modelling

The original resource modelling studies for the five prospect areas considered in this study included the following investigations:

- Review of regional and local geology;
- Review of exploration drilling, survey (topography and collars), geological logging, sampling and geochemical and bulk density analytical methods and procedures;
- Drillhole database review and validation;
- Assessment of available routine laboratory and external QAQC data and verification sampling data (twinning of RC holes with diamond and sonic drillholes);
- Interpretation and 3-D wireframe modelling of base overburden, base of 'ClayUpper' (ferruginous zone) and base of 'Clay Lower' (saprolite zone). The boundary between ferruginous and saprolite domains for Goongarrie South and Big Four was determined by indicator kriging where the weathering profile is more complicated and ferruginous material can underlie saprolite material as the result of paleo-water table fluctuations;
- Interpretation and wireframe modelling of mineralisation envelopes using a nominal 0.25% Ni lower cutoff for the Goongarrie South and Big Four prospects, a 0.4% Ni cutoff for Aubils and a

0.5% Ni cutoff for the Scotia and Black Range prospects. Lower grade intersections were also included where necessary in order to maintain 3-D geological continuity of the envelopes.

- Detailed statistical analysis of Ni, Co, MgO, FeO, Al2O3, CaO, SiO2, Mn, and Cr data for 2 metre composites of the drill sample assay data subdivided by the Ni laterite focused modelling domains (ferruginous and saprolite). CaO, SiO2, Mn and Cr data were not available for the Scotia and Black Range prospects;
- Statistical analysis of relationships between XRD determined mineralogy and multi-element geochemistry for samples from the Jump-Up Dam (JUD) prospect located in the Yerilla sub-project area of the KNP. The resulting geochemical material type classification scheme was subsequently applied to the AU, GS and BF resource models after cross validation against drill sample regolith logging data;
- Statistical analysis of the available bulk density data for the GS and JUD prospects subdivided by the JUD geochemical material type classification scheme. Mean bulk density values determined for GS were applied to the BF prospect and the results for JUD were signed to the AU prospect based on the similar host ultramafic lithologies and mineralisation styles between the paired prospect areas. Estimated average bulk density values were assigned to the earlier resource models for the Scotia and Black Range prospect areas;
- Detailed variography for all grade attributes estimated in each prospect area;
- Resource block models constructed using parent block sizes with dimensions typically half the average drill hole spacing in the mineralised regions of each prospect area. However, block dimensions for BR are not optimal, having been chosen to best represent the drill spacing(s) in the Siberia North and South prospect areas which were incorporated into the same resource model as the BR prospect.
- Ordinary kriging grade estimation mostly based on 2m drillhole composites of all grade attributes with available assay data for each prospect area.
- Original Mineral Resource classification and reporting based on drill hole spacing, nickel grade continuity and/or estimation quality criteria based on assessments of kriging efficiency results.
- Updated Mineral Resource classification based on the original classification and additional constraints based on a pit optimisation work completed by Heron in 2013 for reporting which excluded previously reported resources located outside pit shells produced using optimistic mining, processing and development capital cost criteria.

Assessment of Cobalt Rich Mineralisation

Assessment of the cobalt rich mineralisation in each prospect area has been undertaken using the following approach:

- Generate wireframe grade shells based on the resource block model cobalt grade estimates using a 0.08% Co cutoff grade.
- Visually check the grade shells against the block model grade estimates in plan, section and 3-D.
- Identify grade shell regions containing continuous cobalt rich mineralisation informed by multiple drill hole intersections.

- Use wireframe boolean operations to remove grade shell regions that are poorly informed with drilling or demonstrate poor 3-D continuity. No trimming of the grade shells for the Black Range prospect was conducted as drill spacing was considered too broad (400mE by 100mN) to adequately demonstrate robust zones of higher grade cobalt mineralisation that are more selective than currently Mineral Resource reporting constraints using a 0.5% Ni cutoff.
- Generate wireframe grade shells based on the block model nickel grade estimates using 0.5% Ni and 0.7% Ni cutoff grades and review the relative location and extents of the trimmed cobalt rich grade shells against the two sets of nickel grade shells. These grade shell comparisons clearly demonstrate that most of the cobalt rich mineralisation is associated with higher grade nickel mineralisation.

Plan views of the raw and trimmed cobalt grade shells and drill hole collars for each prospect area are displayed in Figures 2 though 9, while similar views comparing the trimmed cobalt rich grade shells with the nickel grade shells are displayed in Figures 10 through 18.

Updated Resource Reporting for Cobalt Rich Zones

The trimmed block model grade shells based on a 0.08% Co cutoff were used to constrain flagging of the resource block model for each prospect area; co_res_201612 = 1. The block model flagging was then used to constrain the updated Mineral Resource reporting for the cobalt rich mineralisation with no cutoff grade criteria applied. The same resource classification currently used by Ardea and Heron for Mineral Resource reporting for the greater KNP remains unchanged as the informing resource models and grade attributes of economic interest (nickel and cobalt) for the updated reporting remain unchanged.

The Mineral Resource estimates for the KNP have been classified in accordance with the guidelines as set out in the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC, 2012 Edition). The classification has taken into consideration the quality of the exploration data, geological understanding, grade continuity and drill hole spacing. RMRC has checked the current resource classification criteria and corresponding block model coding for each of the five prospect areas informing the updated resource reporting and determined them to be valid.

The Mineral Resources relating regions of continuous cobalt rich mineralisation identified in this study are summarised in Table 1. These resources predominantly form a subset of the Mineral Resources reported by Heron for the greater KNP and do not supersede nor materially add to the current resources reported by Heron for the greater KNP. The current Mineral Resources reported by Heron using a 0.5% Ni cutoff for the five prospect areas containing cobalt rich resources are summarised in Table 2.

Table 1: - KNP Cobalt rich Mineral Resources

Region	Prospect	Resource Category	Cutoff Co %	Million Tonnes	Co %	Ni %	MgO* %	FeO* %	Al2O3* %	SiO2* %	CaO* %	Mn* %	Cr* %
Goongarrie	Goongarrie South	Measured	0.08	3.4	0.14	1.19	1.6	47	6.3	17	0.16	1.02	1.27
		Indicated	0.08	11.2	0.11	0.92	1.8	43	6.2	23	0.78	0.71	1.20
		Inferred	0.08	1.4	0.11	0.76	1.8	39	5.9	30	0.32	0.74	1.20
	Big Four	Indicated	0.08	4.5	0.11	0.89	1.6	40	5.3	32	0.68	0.76	1.07
		Inferred	0.08	0.2	0.11	0.95	1.6	38	4.2	36	0.25	0.73	1.09
	Scotia	Inferred	0.08	2.9	0.14	0.88	3.2	34	4.4				
	Goongarrie Subtotal			**23.6**	**0.12**	**0.94**							
Siberia	Black Range	Inferred	0.5 % Ni	20.1	0.10	0.75	7.9	28	6.7				
Yerilla	Aubits	Inferred	0.08	6.0	0.15	0.90	6.4	33	4.7	31	4.6	0.91	
	KNP Total			**49.7**	**0.12**	**0.86**							

* Estimates for MgO, FeO, Al2O3, SiO2, CaO, Mn and Cr are provided for reference only and do not constitute Mineral Resources

Table 2: - Current Mineral Resources reported by Heron using a 0.5% Ni cutoff for the KNP prospect areas containing cobalt rich resources

Region	Prospect	Resource Category	Million Tonnes	Ni %	Co %
Goongarrie	Goongarrie South	Measured	5.8	1.08	0.105
		Indicated	54.2	0.79	0.066
		Inferred	34.4	0.63	0.042
	Big Four	Indicated	42.6	0.69	0.052
		Inferred	12.4	0.54	0.054
	Scotia	Inferred	11.2	0.77	0.080
	Goongarrie Sub-total		**160.6**	**0.72**	**0.059**
Siberia	Black Range	Inferred	20.1	0.75	0.103
Yerilla	Aubils	Inferred	49.4	0.7	0.066
	Combined Prospects		**230.1**	**0.72**	**0.064**

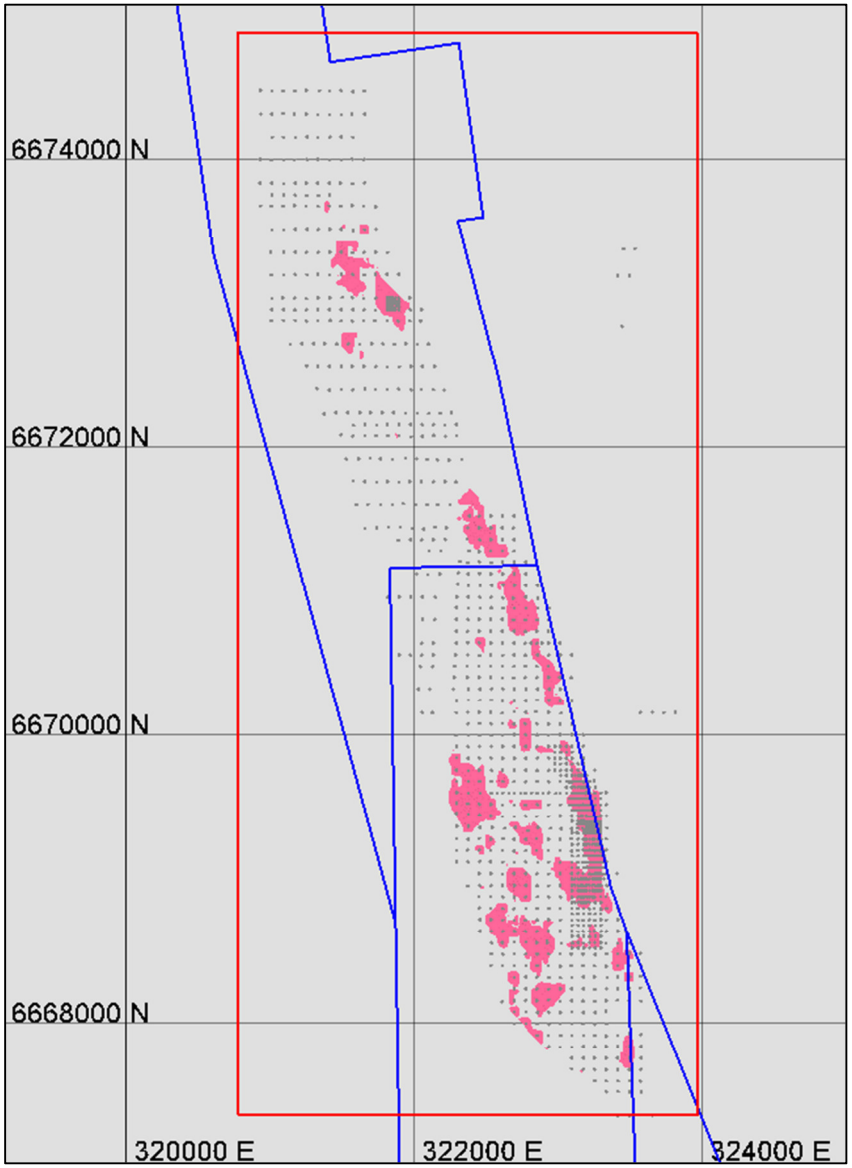


Figure 2: - Goongarrie South - raw block model grade shell based 0.08% Cutoff

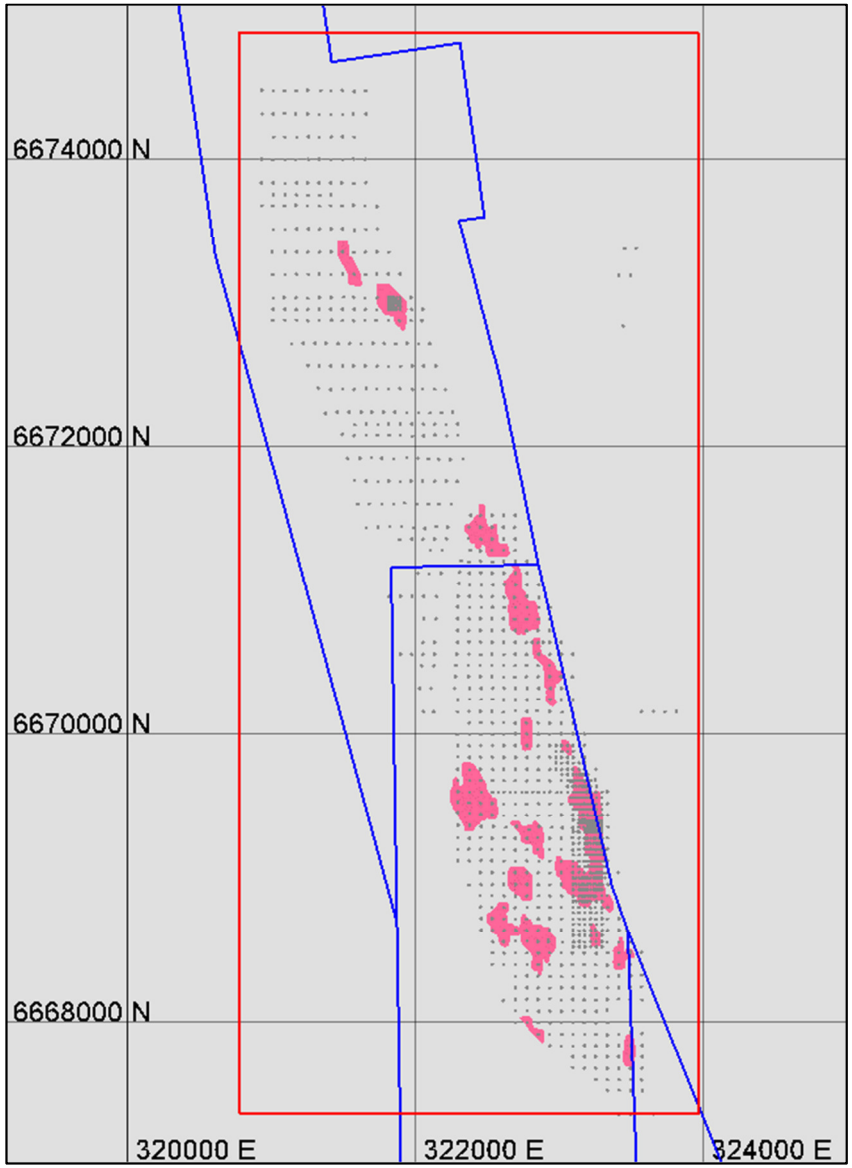


Figure 3: - Goongarrie South - trimmed grade shell based on 0.08% Co cutoff

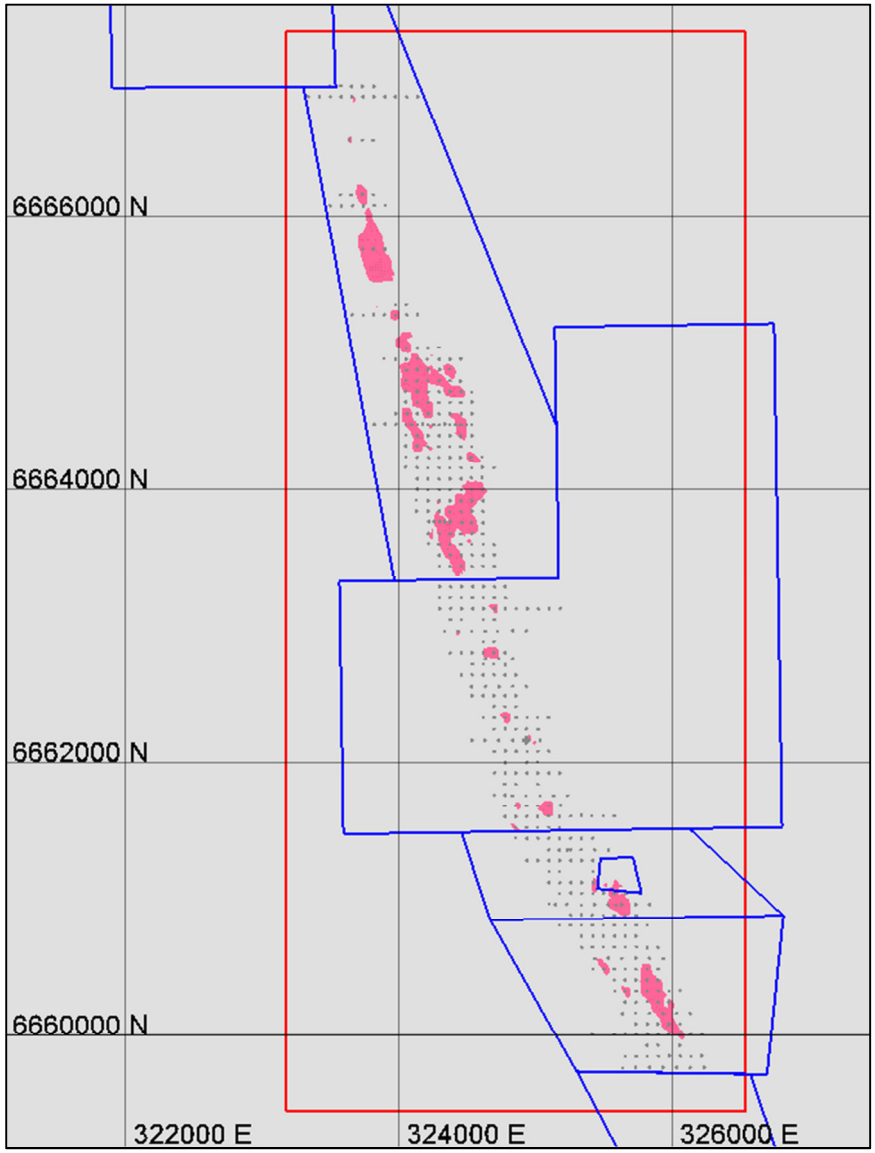


Figure 4: - Big Four - raw block model grade shell based 0.08% Cutoff

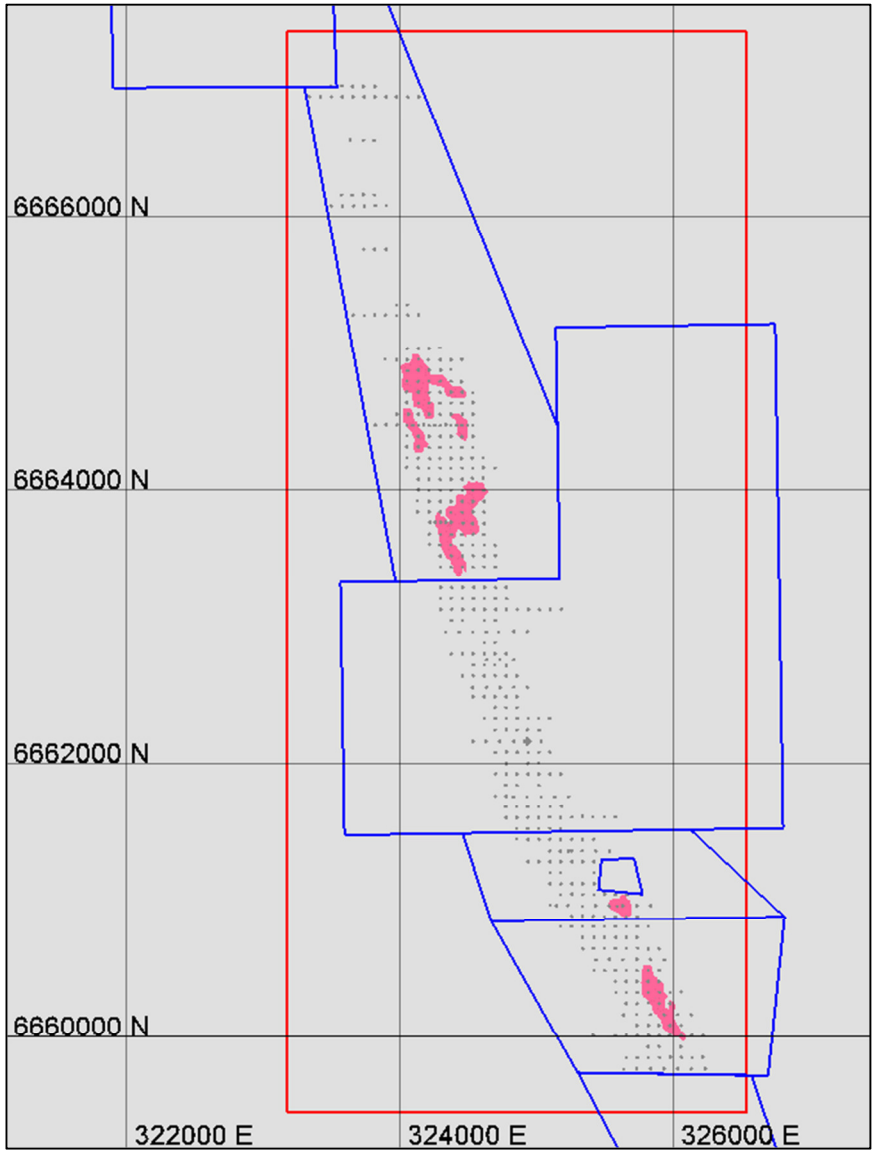


Figure 5: - Big Four - trimmed grade shell based on 0.08% Co cutoff

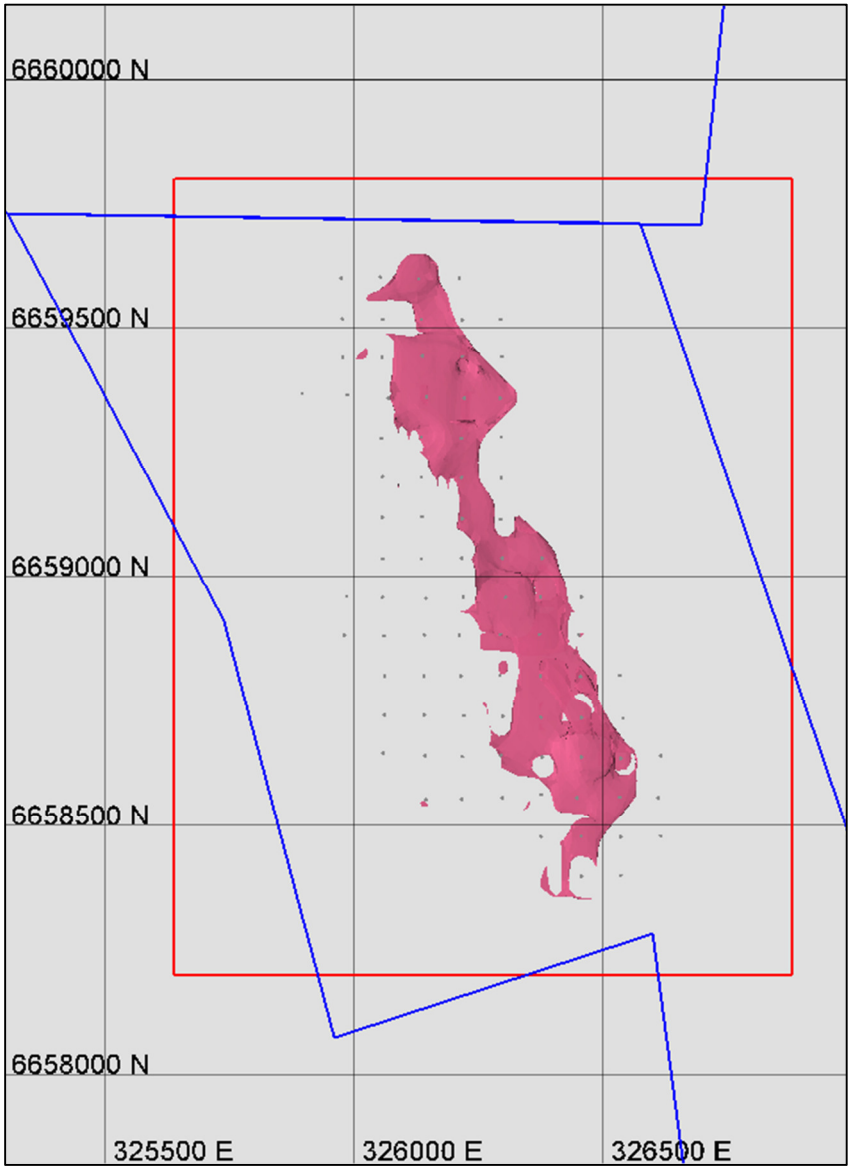


Figure 6: - Scotia - raw block model grade shell based 0.08% Cutoff

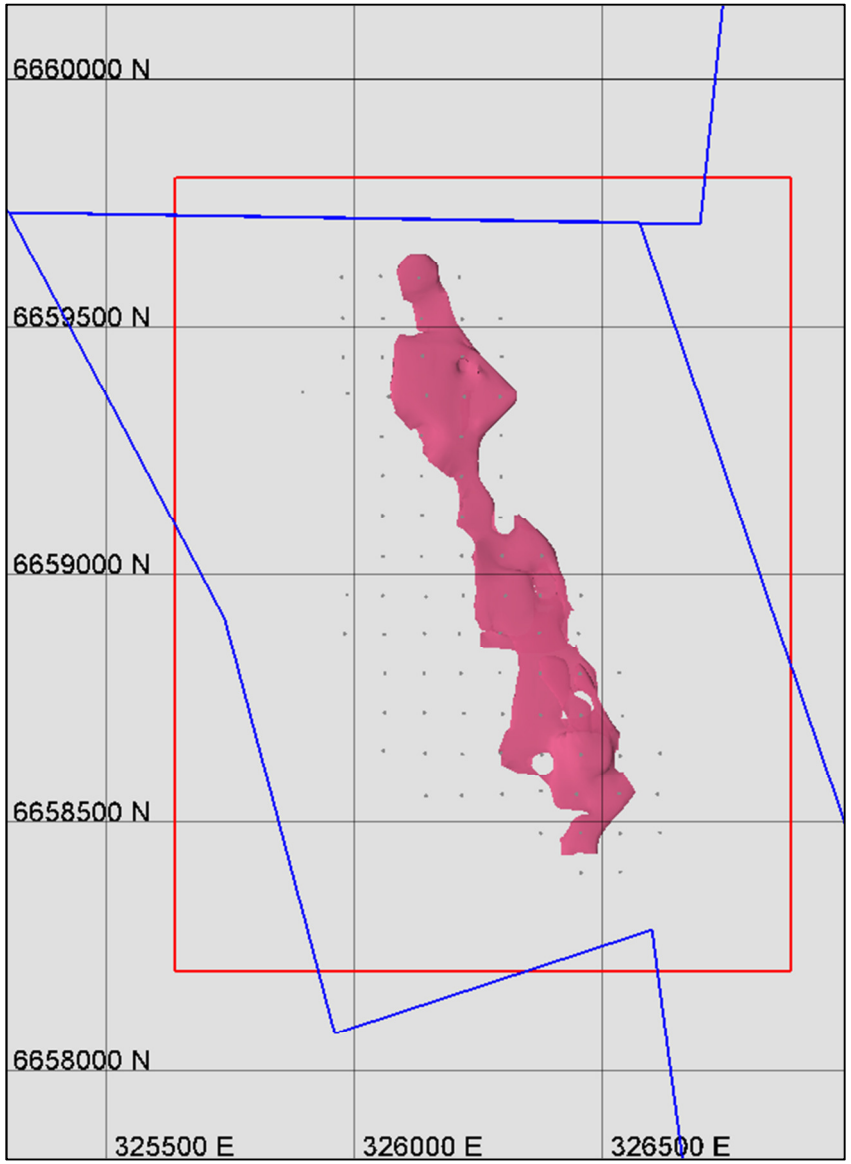


Figure 7: - Scotia - trimmed grade shell based on 0.08% Co cutoff

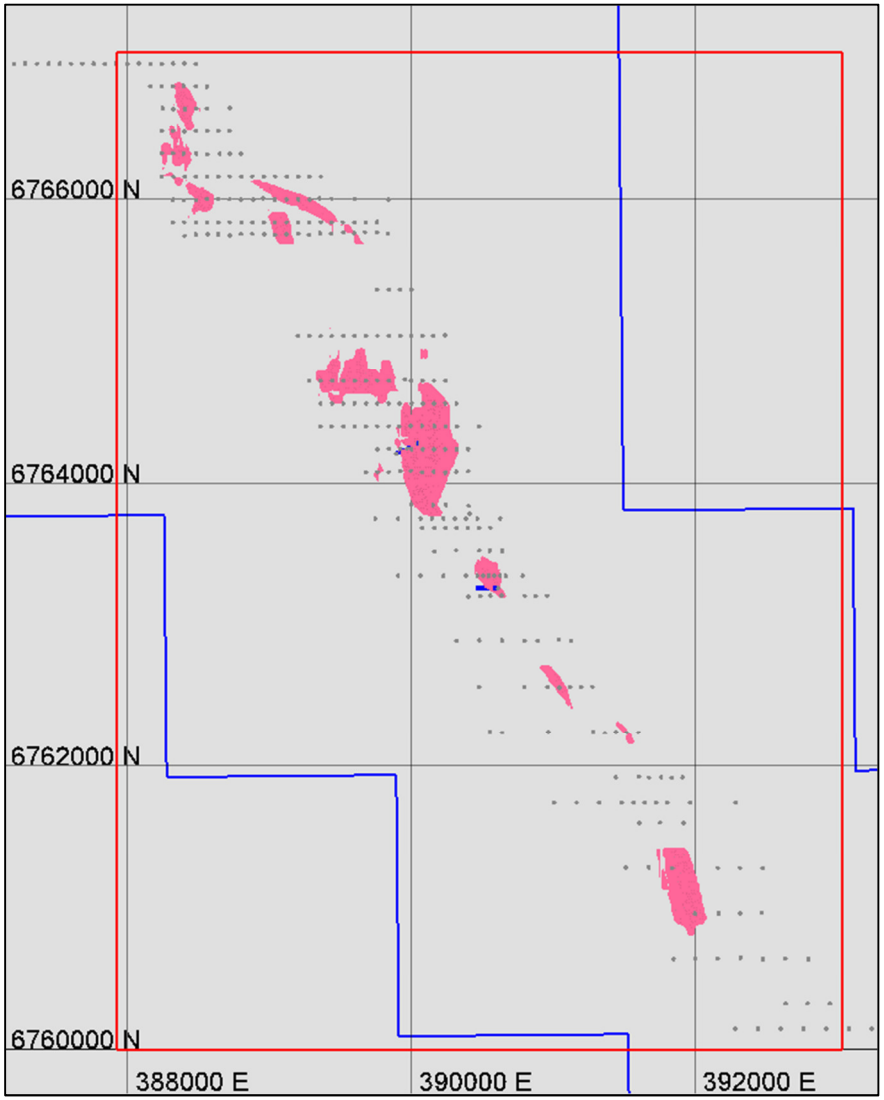


Figure 8: - Aubils - raw block model grade shell based 0.08% Cutoff

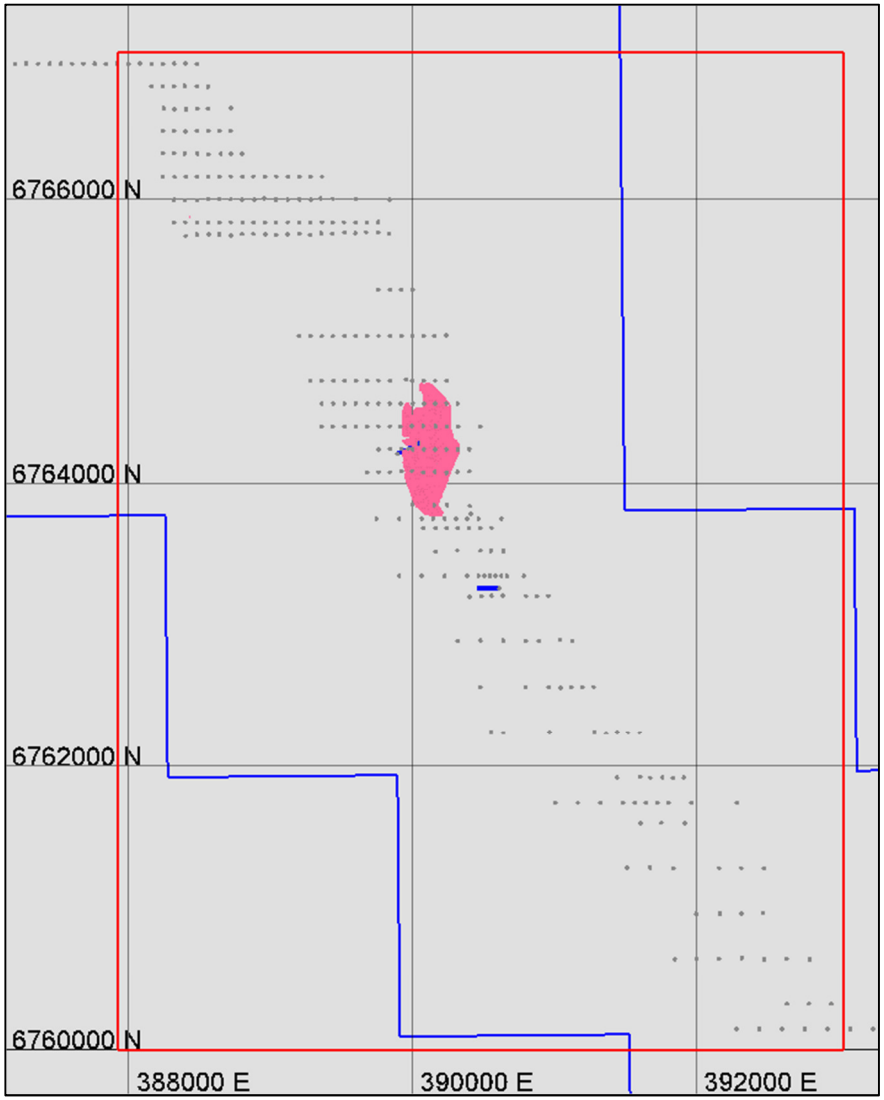


Figure 9: - Aubils - trimmed grade shell based on 0.08% Co cutoff

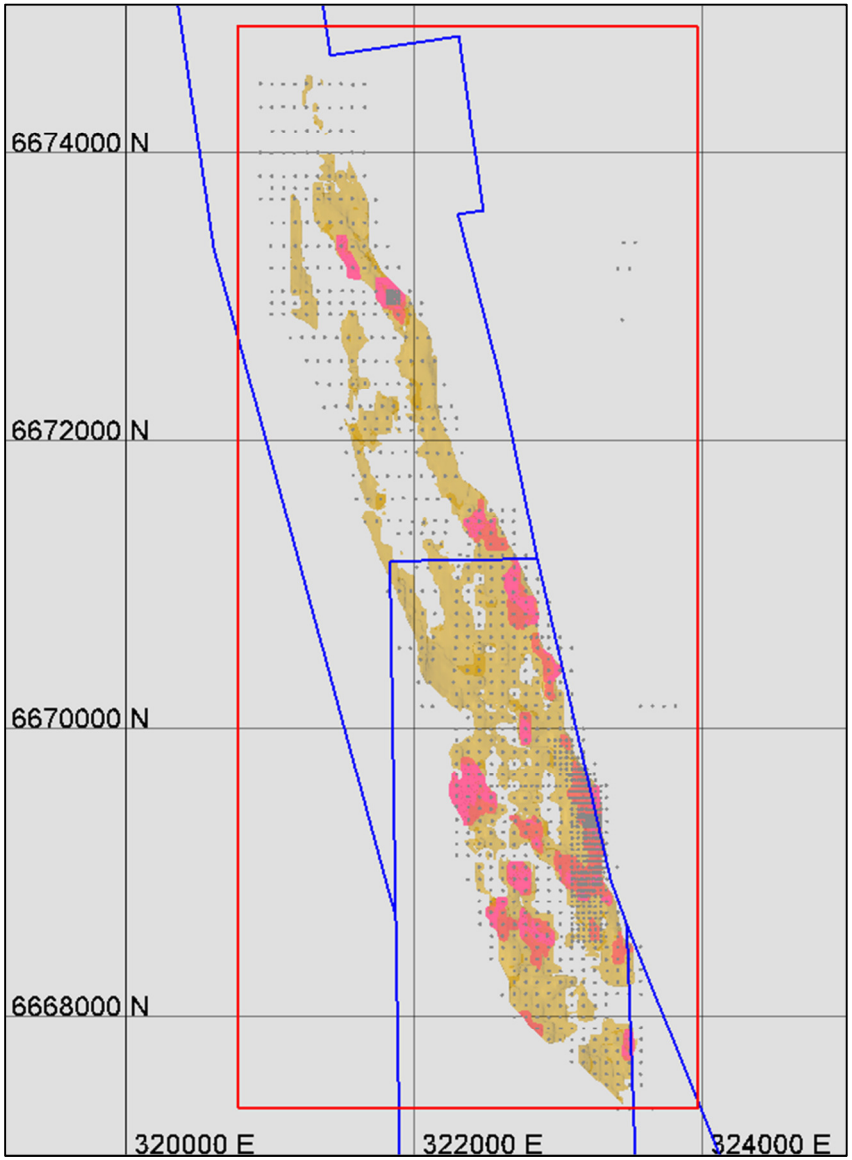


Figure 10: - Goongarrie South - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.5% Ni cutoff (yellow)

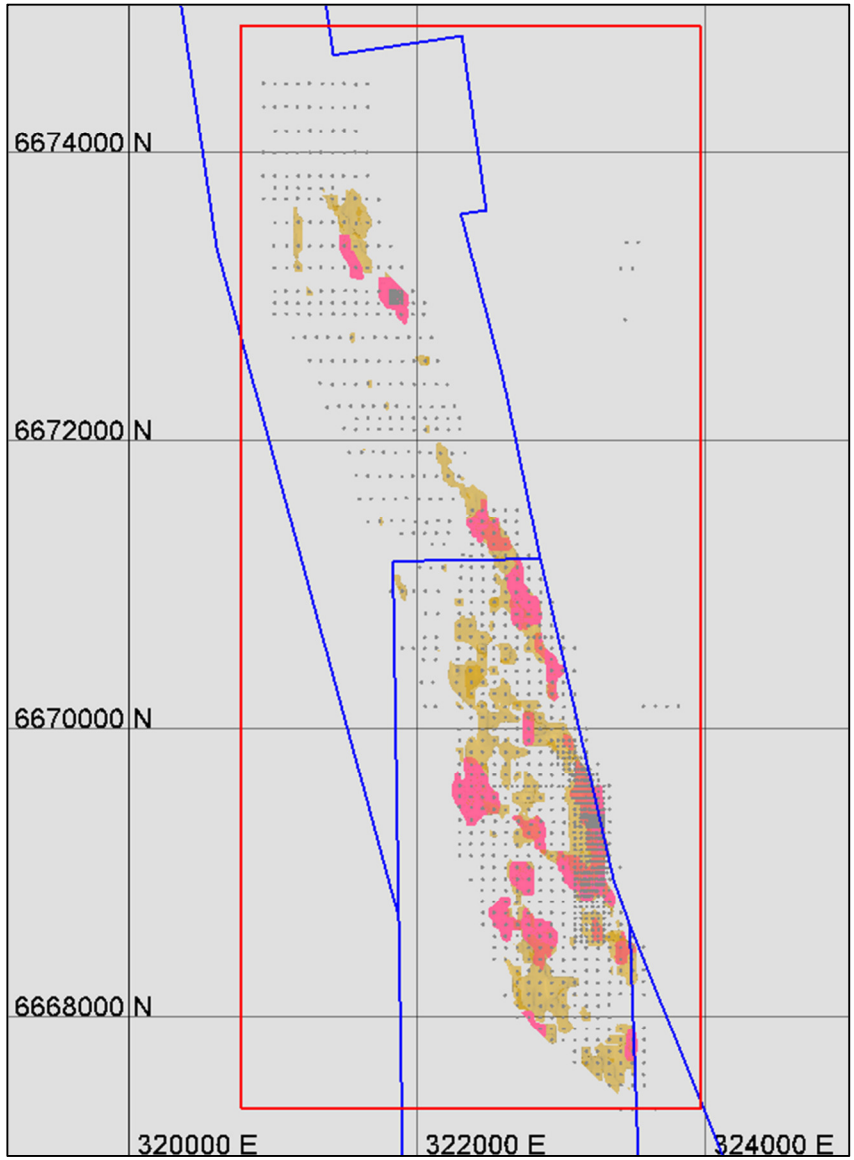


Figure 11: - Goongarrie South - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.7% Ni cutoff (yellow)

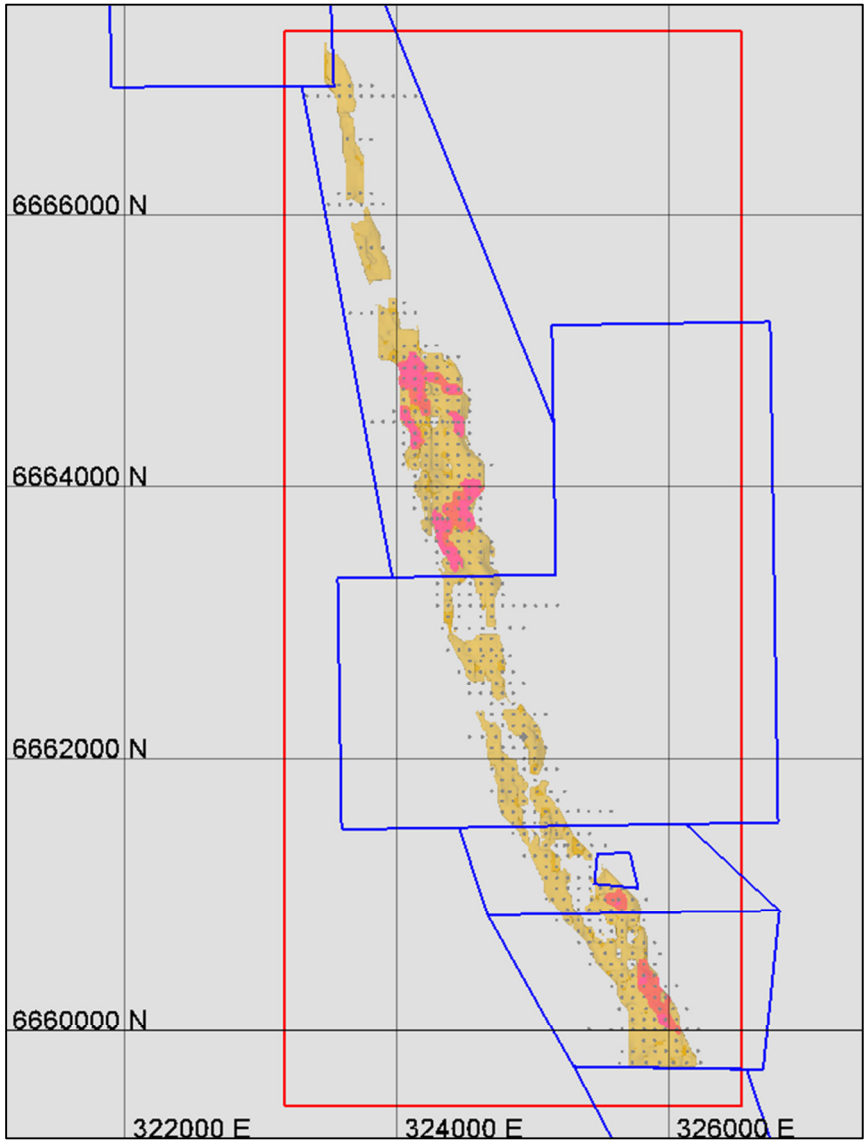


Figure 12: - Big Four - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.5% Ni cutoff (yellow)

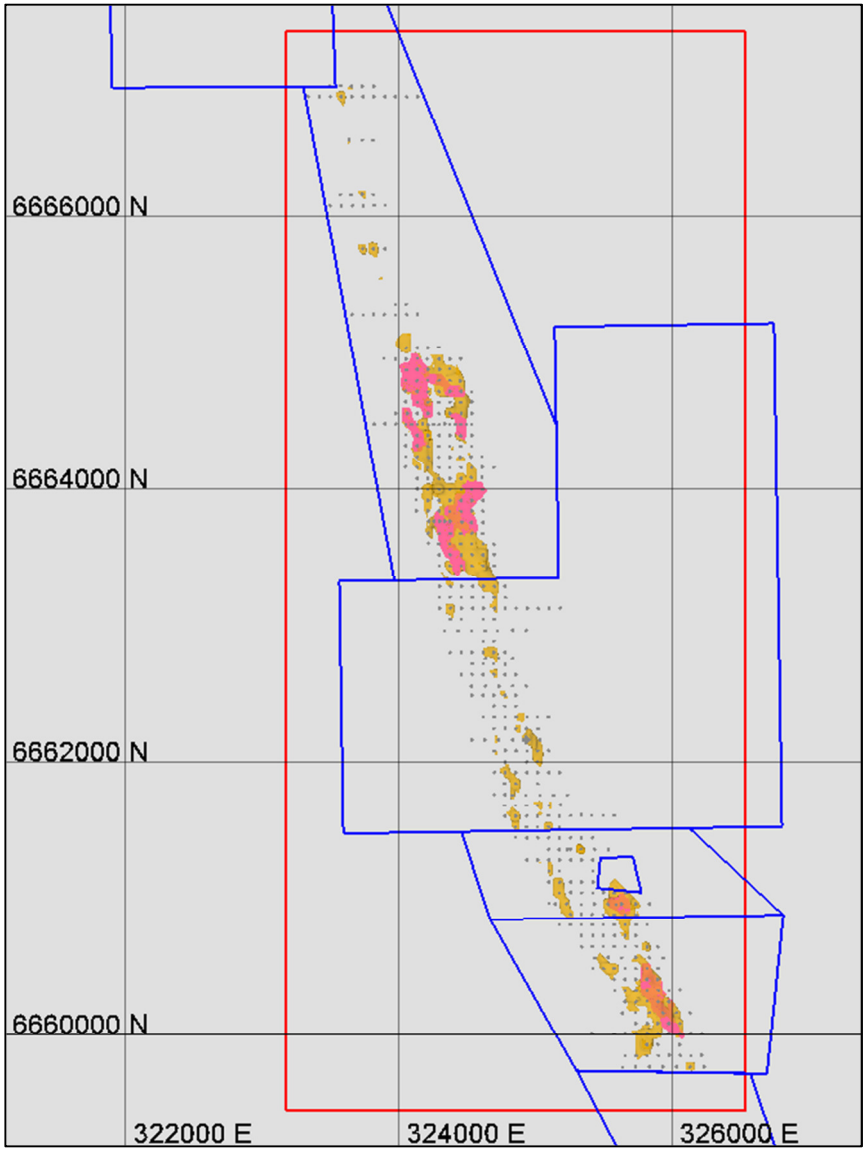


Figure 13: - Big Four - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.7% Ni cutoff (yellow)

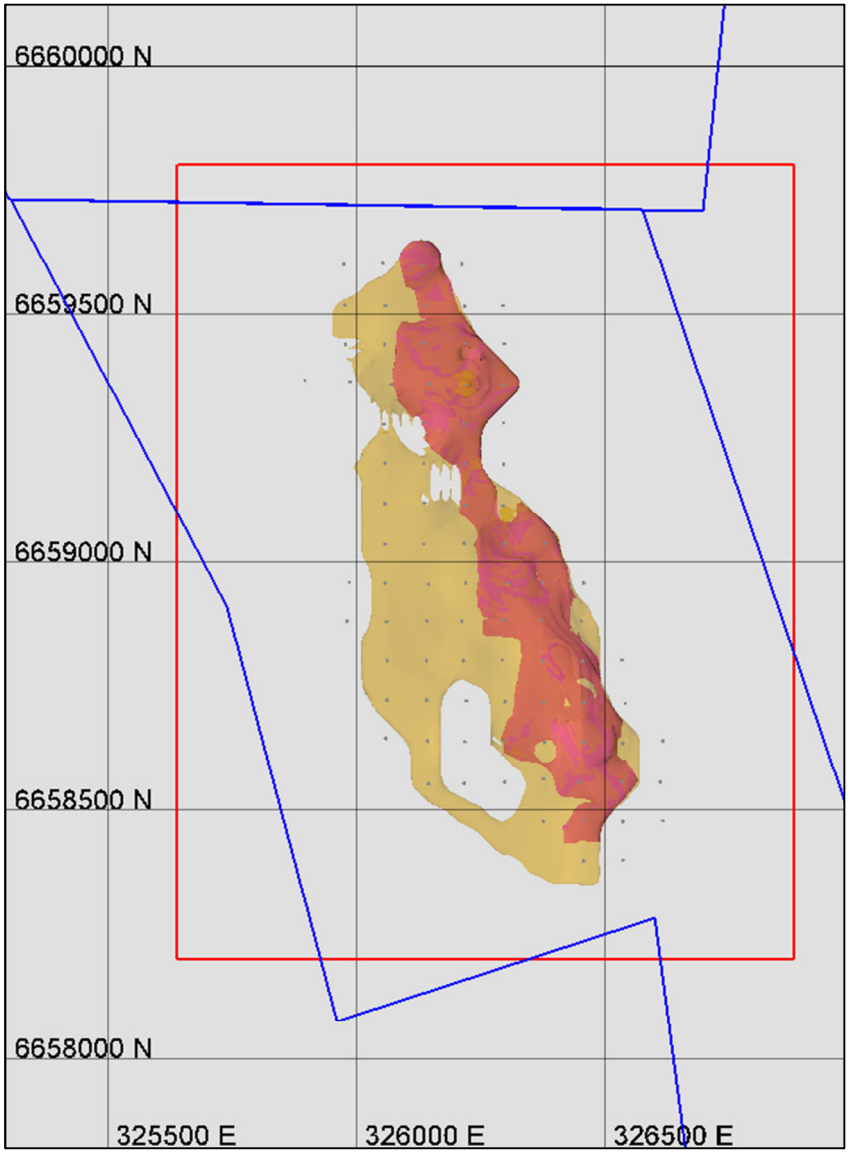


Figure 14: - Scotia - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.5% Ni cutoff (yellow)

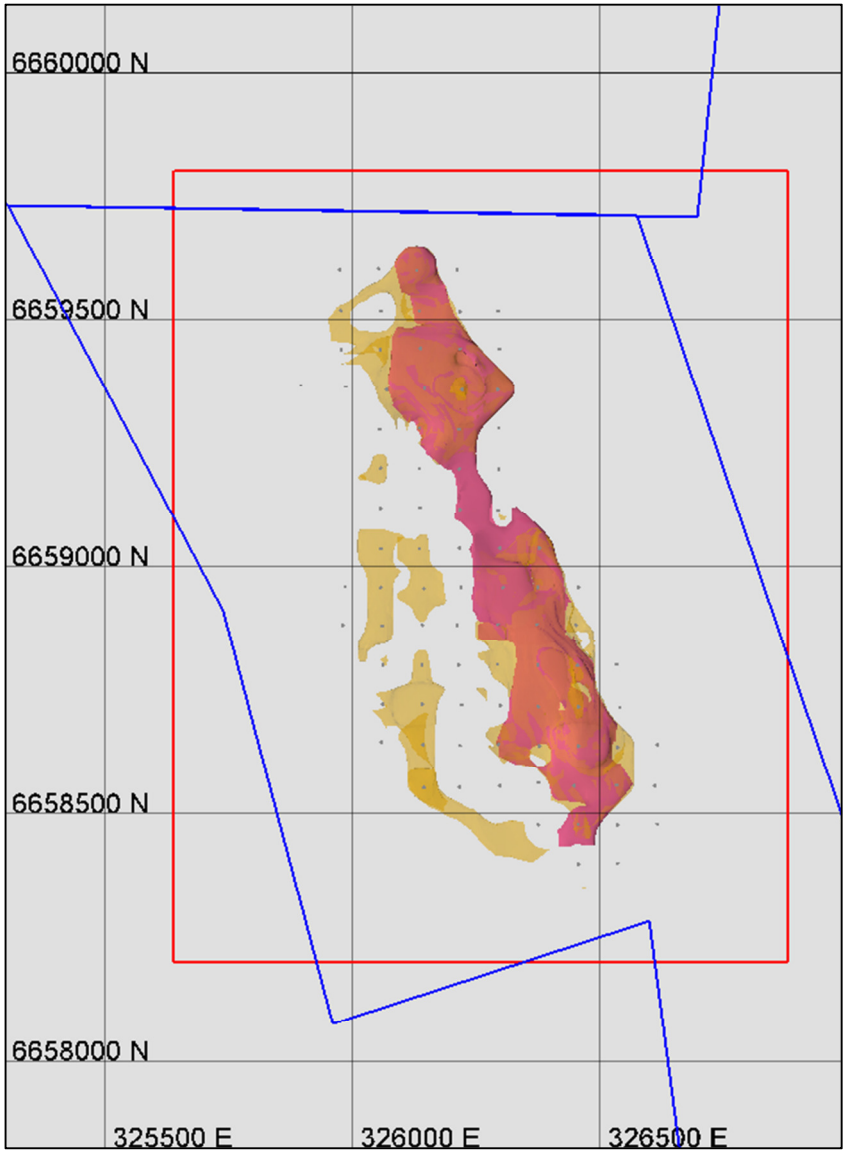


Figure 15: - Scotia - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.7% Ni cutoff (yellow)

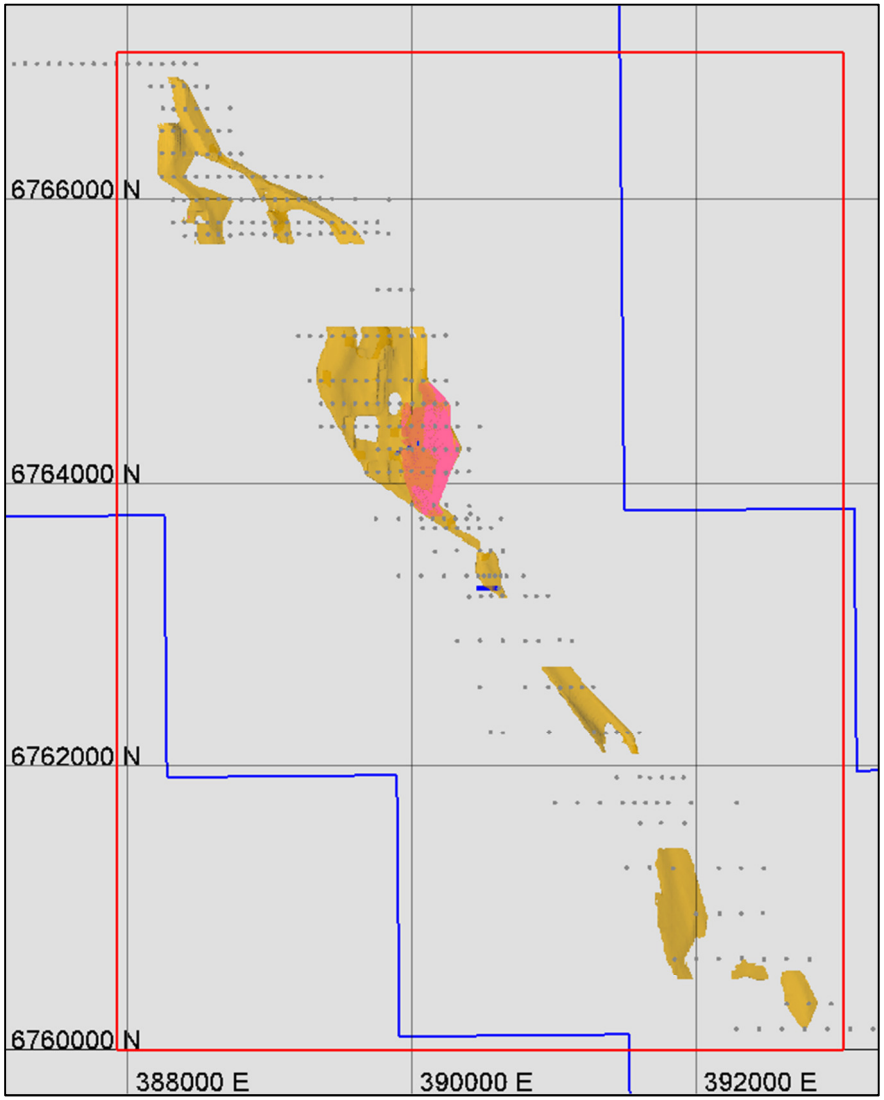


Figure 16: - Aubils - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.5% Ni cutoff (yellow)

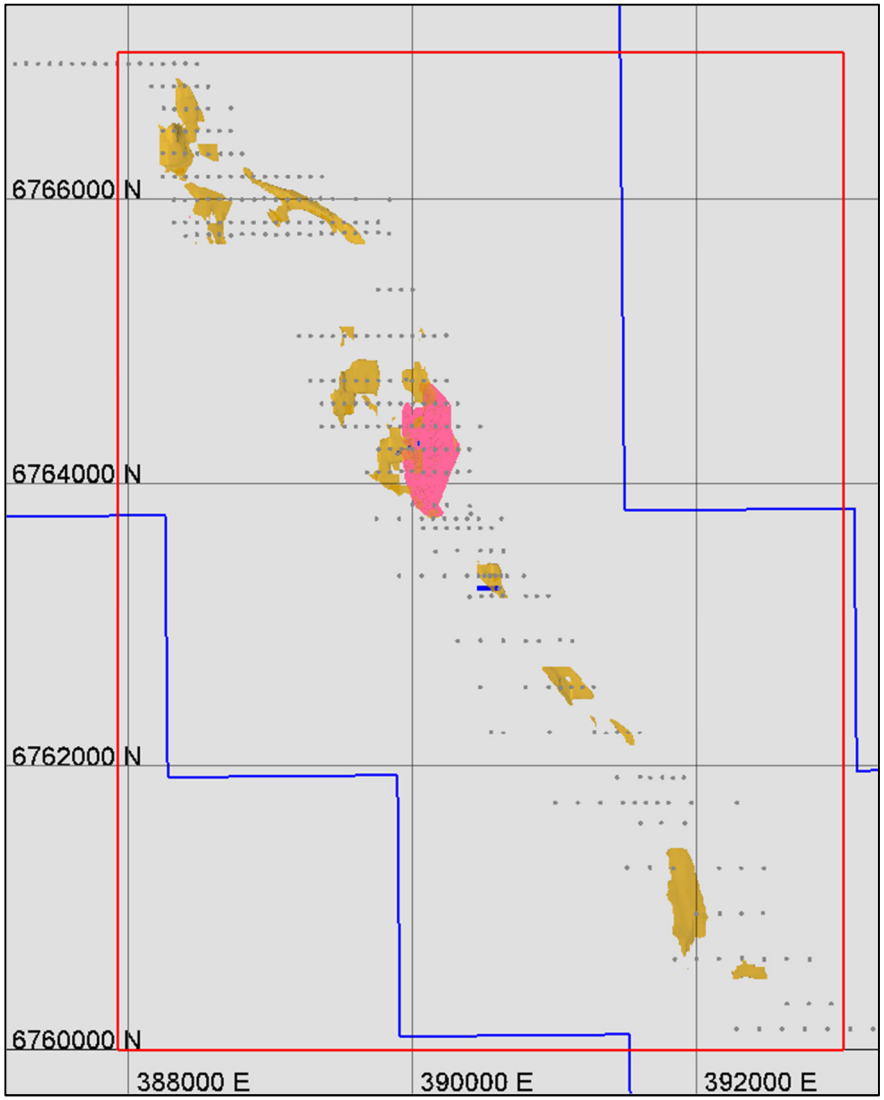


Figure 17: - Aubils - trimmed block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.7% Ni cutoff (yellow)

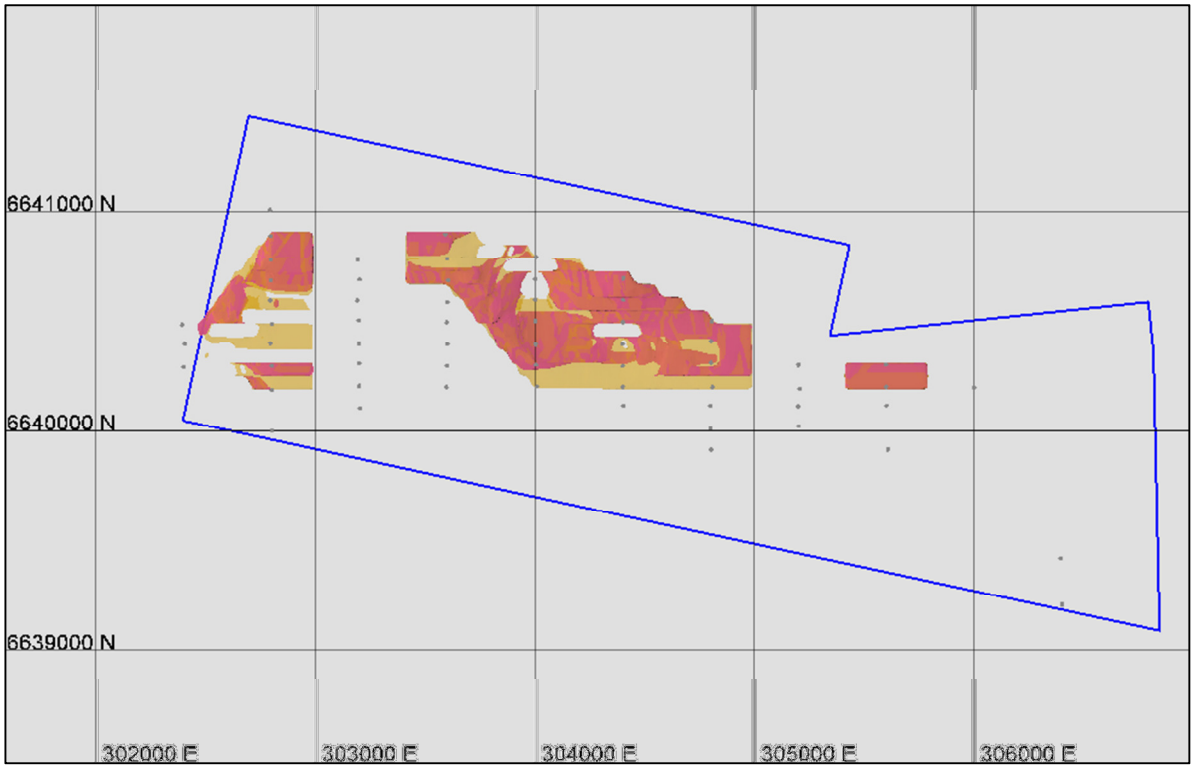


Figure 18: - Black Range - raw block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.5% Ni cutoff (yellow)

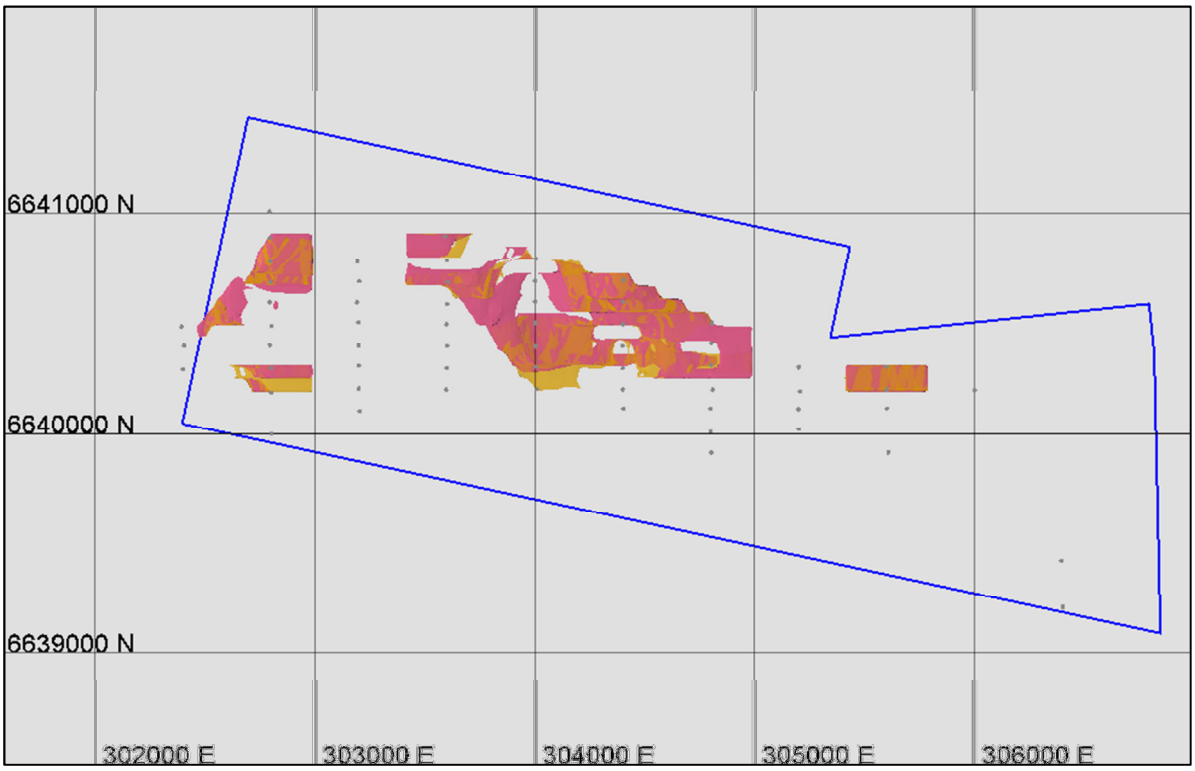
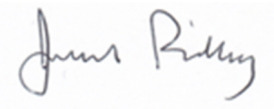


Figure 19: - Black Range - raw block model grade shell based on 0.08% Co cutoff (red) and raw grade shell based on 0.7% Ni cutoff (yellow)

For and on behalf of Ridley Mineral Resource Consulting



James Ridley

Director & Principal Geologist

Competent Persons Statement

The information in this report that relates to 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 and verified by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a full time employee of Heron Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

The information in this report that relates to Mineral Resources for the Goongarrie South, Big Four and Aubils prospects areas is based on information originally compiled by Mr James Ridley in 2008 and 2009 when employed as a Senior Resource Geologist with Heron Resources Limited. The information in this report that relates to Mineral Resources for the Scotia and Black Range Prospects is based on information originally compiled by Snowden Mining Industry Consultants on behalf of Heron in 2004. The Mineral Resource estimates for all five prospect areas have been reviewed and validated by James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Ridley is now a full time employee of Ridley Mineral Resource Consulting Pty Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Ridley consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

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JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary

Sampling techniques
 	
Note: Due to the similarity of the deposit styles, procedures and estimations used this table represents the combined methods for all Heron (HRR) Nickel Laterite Resources. Where data not collected by HRR has been used in the resource calculations, variances in techniques are noted.
	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*
	• *Aspects of the determination of mineralisation that are Material to the Public Report.*
	• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*
		• 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. The majority of 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 calculation.
		• DD holes were drilled for a combination 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.
		• A number of 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 calculation.
		• Bulong East resources were calculated 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.

Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• RC drilling was performed with a face sampling hammer (bit diameter between $4^{1/2}$ and $5^{1/4}$ 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.

Criteria	JORC Code explanation	Commentary
Drilling techniques (continued)		• 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.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• 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. 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. • 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	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• 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.

Criteria	JORC Code explanation	Commentary
Logging (continued)		• 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	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• 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, 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.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• 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, Al_2O_3, SiO_2, 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, Al_2O_3, CaO, Mn, Cr, Cu and Zn. XRF analysis of pressed powder (PP) for Ni. Co, MgO, FeO, Al_2O_3, SiO_2, 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, Al_2O_3, Mn and Cr assays based of 4AD_ICP_OES and PP_XRF analyses. Both four acid digest methods were unable to analyse for SiO_2, 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 SiO_2.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• 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, Al_2O_3 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).

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying (continued)		• Despite the evidence for grade differences in some of the twined 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	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• 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. • The majority of vertical holes used in the resource calculations 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 contactor. 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 into GDA94 from its original source grid via the appropriate transformation. Both original and transformed data is stored in the digital database. • Topographic control varies between the deposits. At Jump Up Dam, LIDAR data to ±10cm vertical and ±50cm horizontal was used to generate a contour plan which was then used 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	• *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.*	• All prospects have been drilled on uniform grids ranging from a maximum of 400mE x 100mN at Black Range to a minimum of 10mE x 10mN in trial mining areas at Jump-up Dam. The drill spacing at the prospects containing continuous cobalt rich mineralisation ranges from 20mE x 20mN to 80mE x 160mN at Goongarrie South, is mostly 80mE x 80mN at Big Four and Scotia, ranges from 80mE x 160mN to 160mE x 360mN at Aubils, and is consistently 400mE x 100mN 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.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• 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	• *The measures taken to ensure sample security.*	• 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	• *The results of any audits or reviews of sampling techniques and data.*	• 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:
		  ○ 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).
		  ○ 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 Goongarie 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	• *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.*	• 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	• *Acknowledgment and appraisal of exploration by other parties.*	• The Goongarrie South, Scotia, Aubil s 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	• *Deposit type, geological setting and style of mineralisation.*	• 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	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
		• 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.
		• Drillhole 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 Yerilla Pre-feasibility Study, 2010.

Criteria	JORC Code explanation	Commentary
Drill hole Information	• *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.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• 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.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• 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	• *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.*	• No new discoveries of nickel laterite mineralisation or cobalt rich areas are presented in this report.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Not applicable to this report. All figures previously reported.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Not applicable to this report.

Criteria	JORC Code explanation	Commentary
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	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 - $LiNiMnCoO_2$ 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	• *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.*	• 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. • 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.
Site visits	• *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.*	• 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.

Criteria	JORC Code explanation	Commentary
Geological interpretation	• *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.*	• 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. • Mineralisation domains were developed using a combination observed geological logging, and multi element geochemical sampling. Lower cut-off grades for the nickel domain was 0.25% Ni for Goongarrie, Highway and Big Four deposits, and 0.4% Ni for all other domains. The domains do contain material of lower grades where continuity of interpretation warrants the addition of internal waste.
Dimensions	• *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.*	• Resource dimensions vary between deposits, however the resources are usually sub horizontal, tabular with strike length over 1000 metres, widths between 100-600 metres and thickness of 10-20 metres. Some resources outcrop, while most lie under thin (generally less than 30 metre thick) soils, cap rock or palaeo-channel sands and clays. Most of the modelled resources are less than 60 metres below surface.

Criteria	JORC Code explanation	Commentary

Estimation and modelling techniques	• *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 (eg sulphur for acid mine drainage characterisation).*
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
	• *Any assumptions behind modelling of selective mining units.*
	• *Any assumptions about correlation between variables.*
	• *Description of how the geological interpretation was used to control the resource estimates.*
	• *Discussion of basis for using or not using grade cutting or capping.*
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*
		• All deposits were Ordinary Kriged (OK), using variography of the domained Ni shells for Ni, Co, MgO, FeO, Al_2O_3 and SiO_2 assay suits. (SiO_2 was unavailable for Siberia, Kalpini and Ghost Rocks due to a lack of assays and was not modelled). In addition to the OK model estimates, Uniform Conditioning (UC) was applied to nickel only for Jump Up Dam, Boyce Creek, Aubils, Highway, Goongarrie, Big Four and Bulong deposits. Although previously reported, these figures have not been reported in the current resource statement.
		• Deposits were estimated using either Vulcan or Datamine mining software, with various versions of Visor being employed for the variography modelling. The original domain wireframe interpretations for Jump Up Dam were created in Micromine.
		• Block sizes varied between models based on drill spacing and deposit geometry as follows
		  ○ 40 x 120 x 2 metre Siberia, Kalpini, Siberia North and Ghost Rocks
		  ○ 80 x 80 x 4 metre Aubils
		  ○ 40 x 80 x 2 metre Highway
		  ○ 40 x 50 x 2 metre Bulong East and Taurus
		  ○ 60 x 120 x 4 metre Goongarrie Hill
		  ○ 40 x 40 x 4 metre Goongarrie South, Big Four
		  ○ 20 x 40 x 4 metre Boyce Creek
		  ○ 10 x 10 x 2 metre Jump Up Dam (global change of support was used to calibrate the estimates within the wider spaced drilling areas)
		• All models used parent cell interpolation with sub-cells half the dimension of the parent cell to improve volume reporting.
		• Ni and Co are the principal economic minerals. Fe has the potential to be an economic mineral under some processing options being assessed. MgO, FeO, Al_2O_3 and SiO_2 are all important minerals in the classification of the different geo-metallurgical styles of mineralisation for both materials handling and metallurgic extraction processes. All have been individually estimated for most of the deposits using OK methods.
		• The domain boundary for mineralisation is similar for all deposits with a step change in nickel grades being modelled around the 0.4% Ni (or 0.25% Ni for Vale deposits – see geological interpretation above) threshold using a wireframe constraint. The two sub domains within the mineralised domain were usually geostatistically analysed and modelled separately. These internal domains relate to the high-iron, and high-MgO domains, which form the upper and lower portions of the mineralised weathering profile, and 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, grades were modelled independently for each element modelled within the separate

		geochemical domains within the nickel wireframe shell.

Criteria	JORC Code explanation	Commentary
		No shells were developed for cobalt or any other minerals, and grades were interpolated into the same domain. • All deposits have been previously modelled, and were checked against previous models to confirm the expected changes between models. • Model estimates were validated against drilling by comparing input and output means, moving window comparative means and by visual inspection of the models. The results of these investigations were generally acceptable for level of resource confidence applied to each model. • In the case of Jump Up dam, where trial mining has taken place, reconciliation between measured resources and mining was very good for both nickel and cobalt. There were some discrepancies in the modelled mineralogical classification of the mineralisation which will have a local effect on processing, depending on the process method employed. These discrepancies were related to the highly complex geometry of the interface between high and low magnesium portions of the deposit, even within a 10 metre spaced drilling grid.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• 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	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The 0.25 and 0.4% Ni cut-offs used for the wireframe domains of the deposits was based on two observed step changes in nickel grades across the drill holes. • Routine Mineral Resource reporting by Heron has a 0.5%Ni cutoff grade applied to the resource block models as this is a common lower grade cut employed during mining of Nickel Laterite deposits. • RMRC produced block model grade shells using a 0.08% Co cutoff which were then trimmed in order to provide constraints for updated Mineral Resource reporting relating to regions of continuous cobalt mineralisation in the Goongarrie South, Big Four, Scotia and Aubils prospect areas. These cobalt rich areas are of particular interest to Heron as a potential source cobalt-nickel-manganese feedstocks for the lithium ion battery industry.

Mining factors or assumptions	• *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.*	• 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 10x10x4(or 2) metres and this was used to develop the uniform conditional model grades for nickel for the deposits. • For the purposes of removing unlikely to be economic resources from the resource statement, a Whittle optimization of the KNP and Yerilla deposits was carried out using an A$12.50 per pound nickel price. Mining and processing costs, along with royalty and recovery factors were taken from the 2010 Heron PFS mining study for this process. The evaluation was carried out on the Kriged nickel and cobalt grades only (uniform conditioning models were not used).

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	• *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.*	• The KNP and Yerilla Projects 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 pyrometallurical 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	• *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.*	• 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, 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	• *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.*	• Bulk densities were measured for the Jump Up Dam, Goongarrie and Highway, 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/m^3 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/m^3. Densities were assigned to material based on the geochemical material classification scheme for each of the deposits. • All other deposits were not measured in the field. Densities based on the above measurements were applied to similar geology on these deposits, using either the geochemical material classification scheme, or, where assays not sufficient for classification, the average density for clay material.

Criteria	JORC Code explanation	Commentary
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, 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.*	• Classification varied slightly between the deposits. All classification of resource estimates were based on a combination of drill hole spacing, the ranges of mineralisation continuity (developed from variography studies), availability of all assay suits for geochemical classification and the slope of regression of the ordinary kriged nickel estimates. **Measured Mineral Resource** • Drill spacing of 20x40 metre or less. • All assays (Ni, Co, MgO, Mn, Cr, AL_2O_3, $Si0_2$, FeO, MgO, CaO) available for geochemical classification. • Domains developed for both high Fe and High MgO domains. • Measured density values available for the material being modelled. • The expected global accuracy of this material is ± 10% for tonnes of nickel. • Applied to a small portion of Jump Up Dam and Goongarrie South resource models. **Indicated Mineral Resource** • Drill spacing of 20x40 metre to 80x80 metre (depending on deposit and variography results). • All assays (Ni, Co, MgO, Mn, Cr, AL_2O_3, $Si0_2$, FeO, MgO, CaO) available for geochemical classification. • Domains developed for both high Fe and high MgO domains. • Density values derived from either measured density values for that deposit, or derived from adjacent deposits and applied to similar material types. • The expected global accuracy of this material is ± 15% for tonnes of nickel.

		• Applied to significant portions of Goongarrie South, Highway, Big Four, Siberia North, Bulong East and Jump Up Dam. **Inferred Mineral Resource** • Drill spacing of 80x80 metre, up to 400x100 metre, including material extended beyond the last line of drilling where deposits have not been closed out. • All assays (Ni, Co) available. Some deposits had additional elements available. • Limited accuracy or no information available for the development of geochemical domains for high Fe and high MgO domains. • Density values assumed for the material being modelled from results of other projects. • The expected global accuracy of this material is ± 30% for tonnes of nickel. • Applied to Ghost Rocks, Goongarrie Hill, Scotia, Black Range, Aubils, Boyce Creek and Kalpini, as well as to the geological extensions to the well drilled portions of the other deposits.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• All resource estimates attributed to Snowden were reviewed internally by Snowden at the time of their creation, and externally by Heron. Models created in-house by Heron have been validated against previous models created by Snowden. All models have been checked by Heron employees both past and present and are considered to be reasonable estimates of resources given the level of confidence applied to each model.
Discussion of relative accuracy/ confidence	• *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 of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• All models as reported provide reasonable global estimates of the available nickel and cobalt resources. Models have been validated visually against drilling for both the recoverable minerals nickel and cobalt, and important geo-metallurgical minerals modelled (FeO, MgO, Al_2O_3, CaO and SiO_2). • The measured resources trial mined at Jump Up Dam reconciled to within 5% of both tonnes mined and nickel grade of mined material (note this reconciliation is an "as-mined" reconciliation, as the material mined has not been processed to date). In the trial mine there were some significant departures in modelled geo-metallurgical material type, no doubt partially due to the small sample size of the mining volume, but also reflecting the short range complexity of the MgO horizon and difficulties in mining of the highly variable contact zone. • Overall the modelled resources present a very reasonable global estimate of the resources for Ni and Co. The also provide a reasonable global estimate for MgO, FeO and Al_2O_3 estimates within the ore domains. Where measured material has been modelled (ie 10x10 metre spaced drilling), the local estimate of nickel and cobalt reconciled well within industry standards.

Table 3 Tenure relating to the KNP prospect areas containing continuous cobalt mineralisation

Prospect	Tenement ID	Heron Interest (%)	Area (ha)	Status	Notes
Goongarrie Region					
Goongarrie South	M29/00272	100	603	Live	
Goongarrie South	M29/00278	100	478	Live	
Goongarrie South	M29/00423	100	822	Live	
Big Four	M24/00731	100	117	Live	1
Big Four	M24/00732	100	202	Live	1
Big Four	M24/00744	100	6.7	Live	1
Big Four	M24/00778	100	890	Live	1
Scotia Dam	M24/00541	100	352	Live	
Yerilla Region					
Aubils	E39/01954	100	20 (bl)	Live	
Siberia Region					
Black Range	M24/00757	100	591	Live	

Notes:

1 Placer Dome Australia Limited retains certain gold rights.

Annexure 2

RESOURCE STATEMENT – KALGOORLIE NICKEL PROJECT

Ardea Resources Limited Prospectus dated 9 November 2016

KNP nickel-cobalt Mineral Resources (JORC 2012) Heron Annual Report 2016[9]

KNP Category	Tonnes (Mt)	Ni (%)	Co (%)
Measured	9.6	1.02	0.081
Indicated	244.0	0.75	0.052
Total Measured and Indicated	**253.6**	**0.76**	**0.053**
Inferred	551.7	0.68	0.046
Total Resources	**805.3**	**0.70**	**0.048**

[9] *In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A,*

The information in this report that relates to Mineral Resources for the Highway, Goongarrie Hill, Goongarrie South, Big Four, Aubils and Boyce Creek Prospects is based on information originally compiled in-house and validated by Steve Jones in 2013. Steve Jones is a member of. the Australasian Institute of Mining and Metallurgy. Steve Jones is a full time employee of Heron Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steve Jones consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

The information in this report that relates to Mineral Resources for the Siberia North, Bulong East, Siberia, Black Range, Taurus and Jump Up Dam Prospects is based on information compiled by Snowden Mining Industry Consultants by members of the Australian Institute of Mining and Metallurgy. Snowden Mining Industry Consultants had sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity. All resources were internally audited by Snowden and signed off by a person of sufficient experience 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'. Steve Jones validated the Snowden Mining Siberia North estimate in 2013. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

KNP Mineral Resources by Category - 2016 Heron Resources Annual Report 2016[10]

Resource Category	Deposit	Tonnes (Mt)	Nickel (%)	Cobalt (%)
Measured	Goongarrie South	5.8	1.08	0.102
	Jump Up Dam	3.8	0.94	0.048
	Subtotal	**9.6**	**1.02**	**0.081**
Indicated	Big Four	42.6	0.69	0.051
	Boyce Creek	26.8	0.77	0.058
	Bulong East	15.9	1.06	0.055
	Goongarrie South	54.2	0.79	0.065
	Highway	52.9	0.66	0.042
	Jump Up Dam	41.6	0.79	0.043
	Siberia North	10.0	0.64	0.051
	Subtotal	**244.0**	**0.75**	**0.052**
Inferred	Aubils	49.4	0.70	0.066
	Big Four	12.4	0.62	0.054
	Black Range	20.1	0.75	0.103
	Bulong East	24.0	0.79	0.053
	Ghost Rocks	47.4	0.66	0.042
	Goongarrie Hill	53.6	0.60	0.037
	Goongarrie South	34.4	0.63	0.042
	Highway	34.1	0.64	0.038
	Jump Up Dam	18.4	0.64	0.034
	Kalpini	75.0	0.73	0.044
	Scotia	11.2	0.77	0.080
	Siberia North	48.9	0.65	0.040
	Siberia South	104.4	0.65	0.034
	Taurus	14.2	0.84	0.051
	Subtotal	**551.7**	**0.68**	**0.046**
Combined	**Total**	**805.3**	**0.70**	**0.048**

[10] *In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A,*

The information in this report that relates to Mineral Resources for the Highway, Goongarrie Hill, Goongarrie South, Big Four, Aubils and Boyce Creek Prospects is based on information originally compiled in-house and validated by Steve Jones in 2013. Steve Jones is a member of. the Australasian Institute of Mining and Metallurgy. Steve Jones is a full time employee of Heron Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steve Jones consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

The information in this report that relates to Mineral Resources for the Siberia North, Bulong East, Siberia, Black Range, Taurus and Jump Up Dam Prospects is based on information compiled by Snowden Mining Industry Consultants by members of the Australian Institute of Mining and Metallurgy. Snowden Mining Industry Consultants had sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity. All resources were internally audited by Snowden and signed off by a person of sufficient experience 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'. Steve Jones validated the Snowden Mining Siberia North estimate in 2013. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

Mineral Resource Estimates for nickel laterite deposits (0.5% nickel cut-off grade) Heron Annual Report 2016[11]

Region	Prospect	Quantity (Mt)	Ni (%)	Co (%)	Resource Category	Estimation Method	Estimate Source	Study Period
Goongarrie	Goongarrie South	5.8	1.08	0.102	Measured	Krige	Heron	Post PFS
	Goongarrie South	54.2	0.79	0.065	Indicated	Krige	Heron	Post PFS
	Goongarrie South	34.4	0.63	0.042	Inferred	Krige	Heron	Post PFS
	Highway	52.9	0.66	0.042	Indicated	Krige	Heron	Post PFS
	Highway**	34.1	0.64	0.038	Inferred	Krige	Heron	Post PFS
	Ghost Rocks‡	47.4	0.66	0.042	Inferred	Krige	Snowden	Pre PFS
	Goongarrie Hill	53.6	0.60	0.037	Inferred	Krige	Heron	Post PFS
	Big Four	42.6	0.69	0.051	Indicated	Krige	Heron	Post PFS
	Big Four	12.4	0.62	0.054	Inferred	Krige	Heron	Post PFS
	Scotia	11.2	0.77	0.080	Inferred	Krige	Snowden	Pre PFS
Sub-Total Goongarrie		**5.8**	**1.08**	**0.102**	**Measured**	**Krige**		
		149.7	**0.72**	**0.053**	**Indicated**	**Krige**		
		193.0	**0.64**	**0.043**	**Inferred**	**Krige**		
Siberia	Siberia South#	104.4	0.65	0.034	Inferred	Krige	Snowden	Pre PFS
	Siberia North	10.0	0.64	0.051	Indicated	Krige	Snowden	Post PFS
	Siberia North	48.9	0.71	0.047	Inferred	Krige	Snowden	Post PFS
	Black Range	20.1	0.75	0.103	Inferred	Krige	Snowden	Pre PFS
Sub-Total Siberia		**10.0**	**0.64**	**0.051**	**Indicated**	**Krige**		
		173.4	**0.68**	**0.046**	**Inferred**	**Krige**		
Total KNP West		**5.8**	**1.08**	**0.102**	**Measured**	**Krige**		
		159.7	**0.71**	**0.053**	**Indicated**	**Krige**		
		366.4	**0.66**	**0.044**	**Inferred**	**Krige**		
Bulong	Taurus	14.2	0.84	0.051	Inferred	Krige	Snowden	Pre PFS
	East#	15.9	1.06	0.055	Indicated	Krige	Snowden	Pre PFS
	East*#	24.0	0.79	0.053	Inferred	Krige	Snowden	Pre PFS
Sub-Total Bulong*		**15.9**	**1.06**	**0.055**	**Indicated**	**Krige**		
		38.2	**0.81**	**0.052**	**Inferred**	**Krige**		
Hampton	Kalpini	75.0	0.73	0.044	Inferred	Krige	Snowden	Pre PFS
Sub-Total Hampton		**75.0**	**0.73**	**0.044**	**Inferred**	**Krige**		
Total KNP East		**15.9**	**1.06**	**0.055**	**Indicated**	**Krige**		
		113.2	**0.76**	**0.047**	**Inferred**	**Krige**		
Yerilla	Jump Up Dam†#	3.8	0.94	0.048	Measured	Krige	Snowden	PFS
	Jump Up Dam#	41.6	0.79	0.043	Indicated	Krige	Snowden	PFS
	Jump Up Dam#	18.4	0.64	0.034	Inferred	Krige	Snowden	PFS
	Boyce Creek#	26.8	0.77	0.058	Indicated	Krige	Heron	PFS
	Aubils#	49.4	0.70	0.066	Inferred	Krige	Heron	PFS
Sub-Total KNP Yerilla		**3.8**	**0.94**	**0.048**	**Measured**			
		68.4	**0.78**	**0.049**	**Indicated**			
		67.8	**0.68**	**0.057**	**Inferred**			
Company Total		**9.6**	**1.02**	**0.081**	**Measured**			
		244.0	**0.75**	**0.052**	**Indicated**			
		551.7	**0.68**	**0.046**	**Inferred**			

Notes:

1. *This Mineral Resource was first reported to the ASX within the release dated the 18th October 2013 and has been adjusted subsequently for minor adjustments to tenement changes.*
2. *Tonnage (dry) and grade estimates have been rounded to reflect the estimation precision.*
3. *Economic parameters for the KNP are based on a Pre-feasibility Study completed by Vale Inco under farm-in arrangements between April 2005 and July 2009, and re-optimised by Heron between August 2009 and May 2010. The Vale Inco farm-in ended in July 2009 and Vale Inco has no retained rights in respect of the KNP tenements.*
4. *Economic parameters for Yerilla are based on a Pre-feasibility Study completed by Heron between June 2006 and April 2009, and re-optimised between May 2009 and May 2011.*
5. *Specific notes from table provided below:*

* *Surrendered M25/162 Inferred Resource of 0.33Mt @ 0.59% nickel and 0.080% cobalt.*

** *Surrendered M29/416 Inferred Resource of 4.4Mt @ 0.59% nickel and 0.058% cobalt.*

‡ *New tenement E24/291 Inferred Resource of 22.4Mt @ 0.66% nickel and 0.036% cobalt added to project.*

† *Includes approximately 20,000 tonnes @ 1.3% nickel and 0.050% cobalt in stockpiles from the 2006 trial.*

\# *The following tenements are held by Heron Resources. Ardea has pre-emptive rights on nickel-cobalt laterite resources as outlined in the Demerger Implementation Agreement.*

Siberia South	*M24/665*	*22.0Mt @ 0.66% nickel and 0.035% cobalt*	*Impress Ventures 10% Free Carried Interest*
Siberia South	*M24/845*	*15.82Mt @ 0.67% nickel and 0.040% cobalt*	*Subject to plaint for forfeiture*
Siberia South	*M24/846*	*7.88Mt @ 0.58% nickel and 0.036% cobalt*	*Subject to plaint for forfeiture*
Bulong East	*M25/59*	*2.68Mt @ 1.12% nickel and 0.063% cobalt*	*Southern Gold-Heron JV*
Bulong East	*M25/134*	*13.54Mt @ 0.85% nickel and 0.045% cobalt*	*Southern Gold-Heron JV*
Bulong East	*M25/161*	*13.93Mt @ 0.80% nickel and 0.057% cobalt*	*Southern Gold-Heron JV*
Bulong East	*M25/171*	*0.21Mt @ 0.75% nickel and 0.043% cobalt*	*Southern Gold-Heron JV*
Bulong East	*M25/209*	*3.12Mt @ 0.85% nickel and 0.060% cobalt*	*Southern Gold-Heron JV*
Aubils	*E39/1954*	*49.40Mt @ 0.70% nickel and 0.066% cobalt*	*Possible third party sale of non-laterite rights*
Boyce Creek	*E31/1092*	*20.84Mt @ 0.77% nickel and 0.061% cobalt*	*Possible third party sale non-laterite*
Boyce Creek	*M31/483*	*5.96Mt @ 0.77% nickel and 0.049% cobalt*	*Possible third party sale non-laterite*
Jump-up Dam	*M31/475*	*18.22Mt @ 0.74% nickel and 0.043% cobalt*	*Possible third party sale non-laterite*
Jump-up Dam	*M31/477*	*2.30Mt @ 0.69% nickel and 0.043% cobalt*	*Possible third party sale non-laterite*
Jump-up Dam	*M31/479*	*43.29Mt @ 0.76% nickel and 0.040% cobalt*	*Possible third party sale non-laterite*

[11] *In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A,*

The information in this report that relates to Mineral Resources for the Highway, Goongarrie Hill, Goongarrie South, Big Four, Aubils and Boyce Creek Prospects is based on information originally compiled in-house and validated by Steve Jones in 2013. Steve Jones is a member of. the Australasian Institute of Mining and Metallurgy. Steve Jones is a full time employee of Heron Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steve Jones consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

The information in this report that relates to Mineral Resources for the Siberia North, Bulong East, Siberia, Black Range, Taurus and Jump Up Dam Prospects is based on information compiled by Snowden Mining Industry Consultants by members of the Australian Institute of Mining and Metallurgy. Snowden Mining Industry Consultants had sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity. All resources were internally audited by Snowden and signed off by a person of sufficient experience 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'. Steve Jones validated the Snowden Mining Siberia North estimate in 2013. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

Schedule 3

Announcement - Project Updates, KNP Cobalt Zone and Lewis Ponds Bulk Tonnage Exploration Target

lodged 6 January 2017

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Heron Resources Limited

ASX/TSX Release

6 January 2017

Ardea Resources Limited
Project Update

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

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

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

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

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

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

1. Cobalt focus for the Kalgoorlie Nickel Project

1.1. High-grade cobalt resource

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

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

This new KNP Cobalt Zone resource is comprised as follows:

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

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

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

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

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

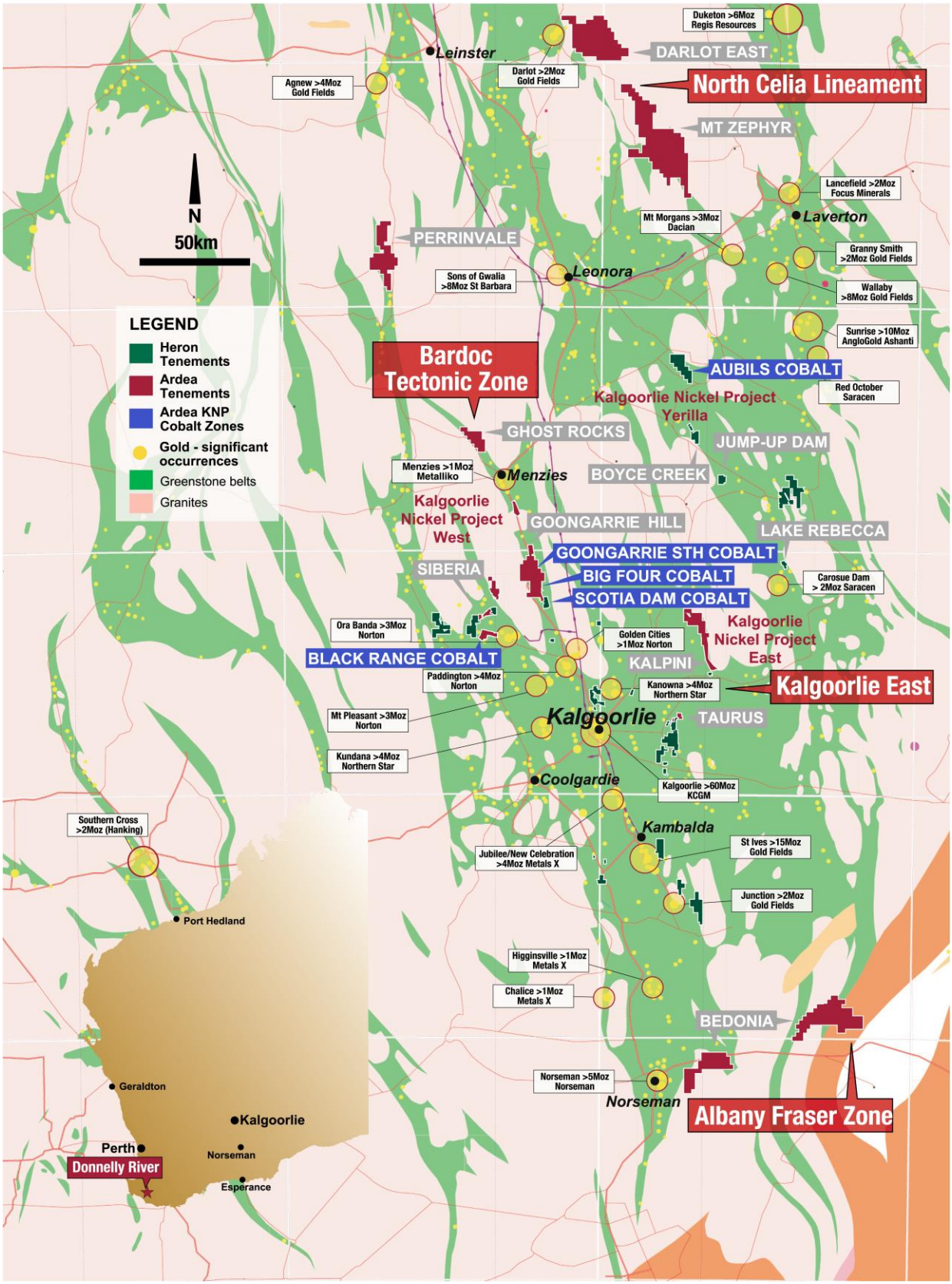

Figure 3 – Ardea WA projects, showing the Goongarrie South, Big Four, Scotia Dam, Black Range and Aubils Cobalt Zones.

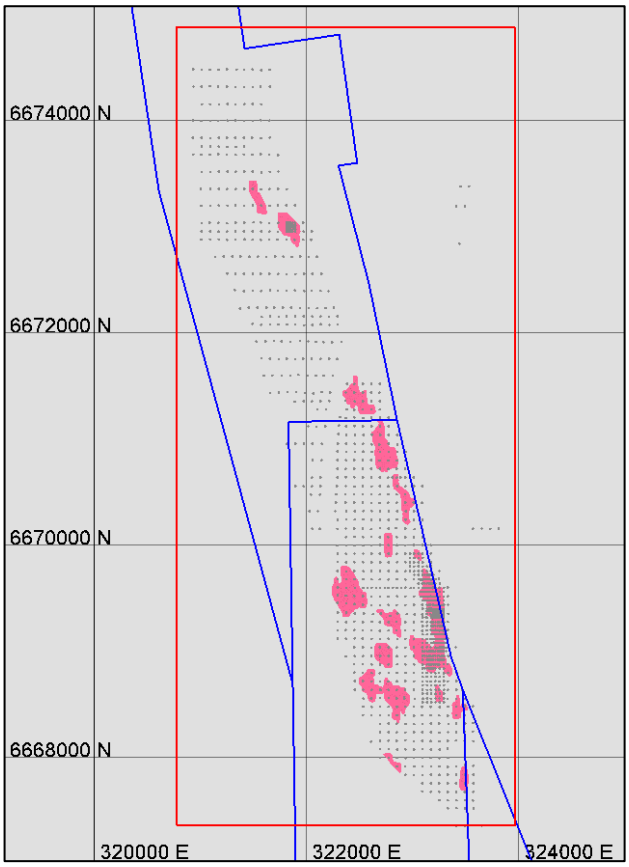

Figure 4 - Goongarrie South – work currently underway, showing 0.08% Co trimmed block model grade shell

1.1.1. Goongarrie South

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

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

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

1.1.2. KNP, Australia's largest cobalt resource

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

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

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

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

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

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

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

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

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

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

2. Lewis Ponds zinc-gold project – Updates

2.1. Bulk tonnage model for exploration and development

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

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

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

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

[2] The breakdown for the full Lewis Ponds resource categories is as follows:

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

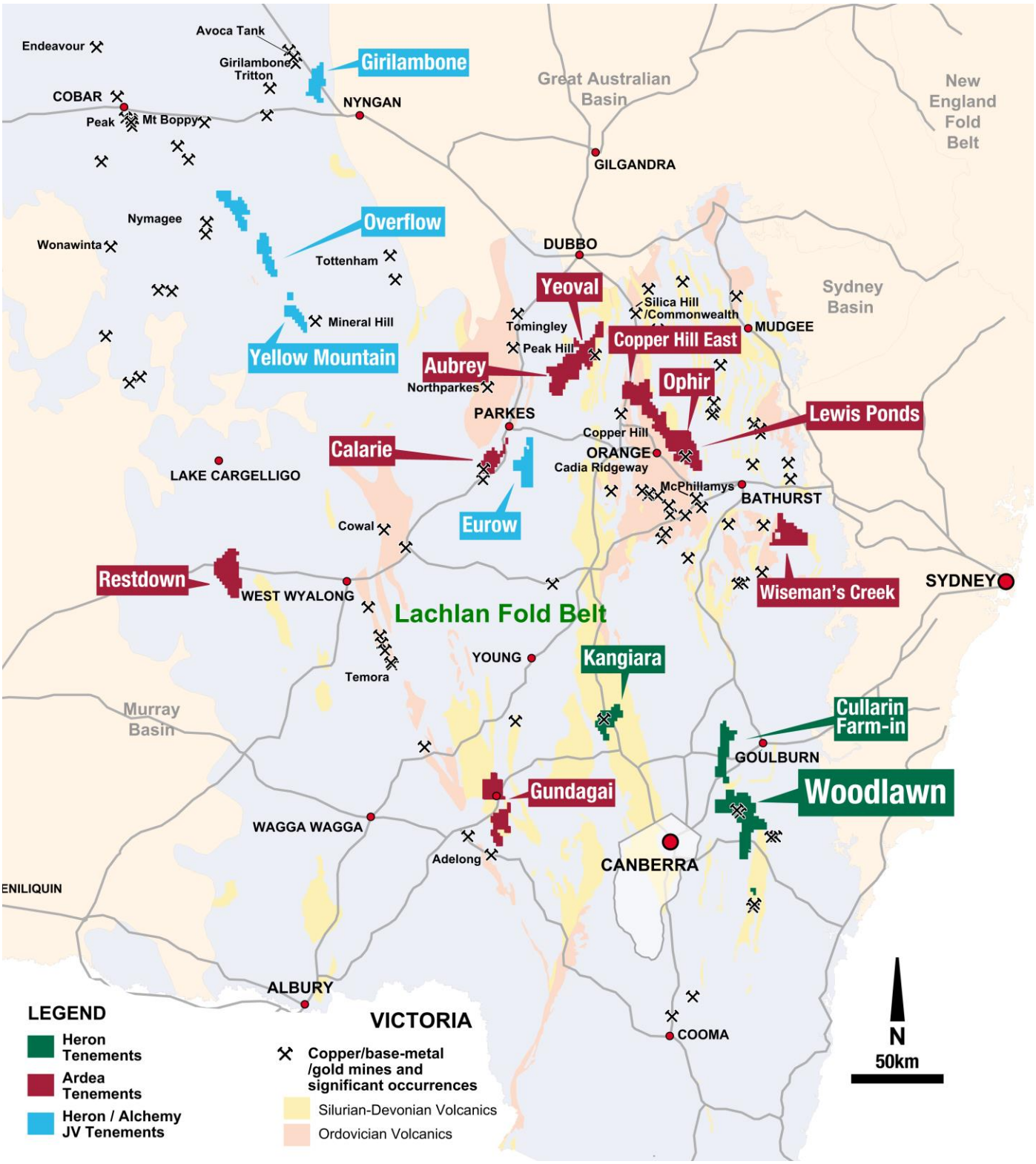

Figure 6 – Ardea NSW Projects showing Lewis Ponds, the recent applications of Yeoval-Mt Aubury immediately northwest of Copper Hill and Wisemans Creek immediately southeast of Lewis Ponds. The McPhillamys gold discovery is shown 20km SE from Lewis Ponds.

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

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

Lewis Ponds mineralisation is dominantly a 20-50 metre wide stringer (shear vein) system with 2-10 metre thick bands of massive Zn-Pb-Ag-Au mineralisation able to carry sub-grade stringers, with typically 2-5 m internal waste bands.

The mining implications for Lewis Ponds are:

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

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

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

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

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

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

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

2.2. Field exploration results

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

Table 3 – Lewis Ponds Rock chip sampling

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

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

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

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

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

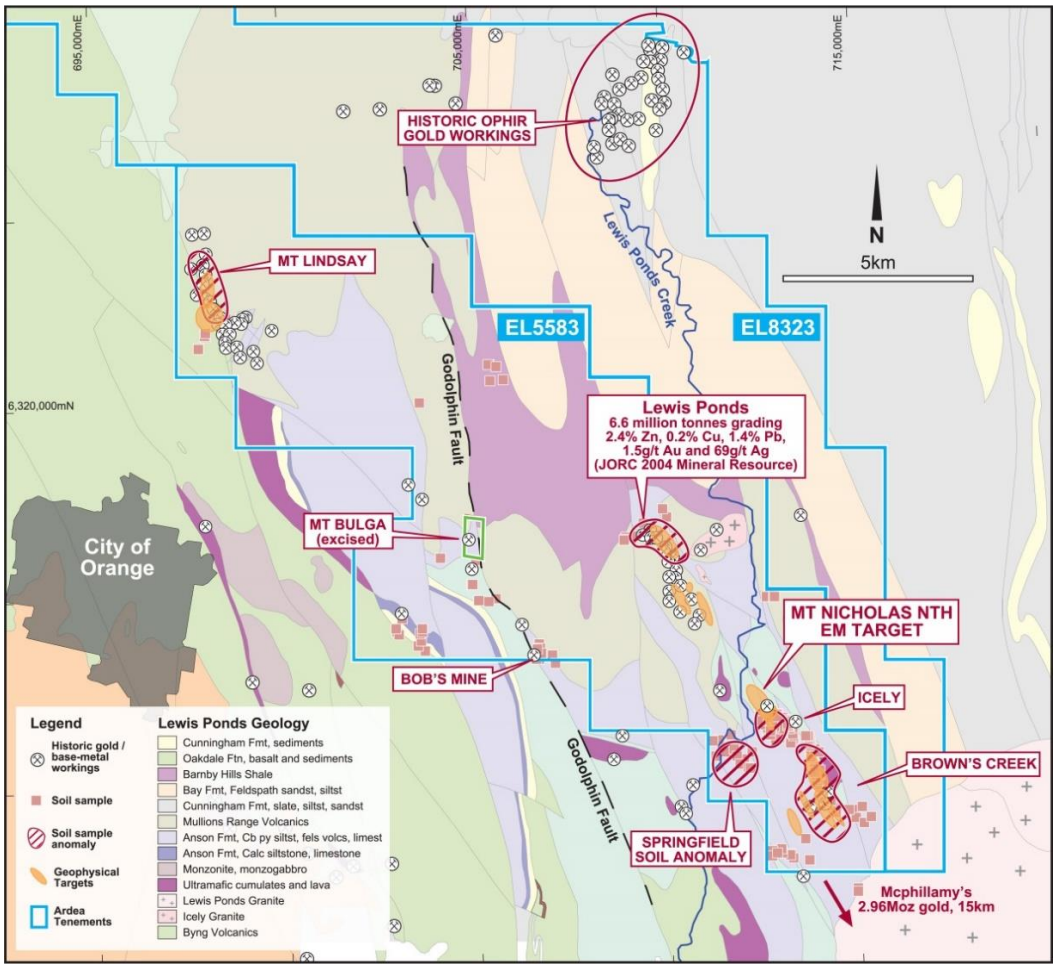

Figure 7 – Lewis Ponds, tenement and key prospects map

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

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

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

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

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

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

2.3. Exploration target

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

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

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

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

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

3. Exploration update

3.1. Western Australian projects

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

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

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

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

Gale gold prospect

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

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

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

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[3] *An Exploration Target is a term used within the JORC2012 Code for an estimate of the exploration potential of a mineral deposit. As used in this release the stated Exploration Target is based upon the parameters described in the text, however the potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling.*

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

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

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

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

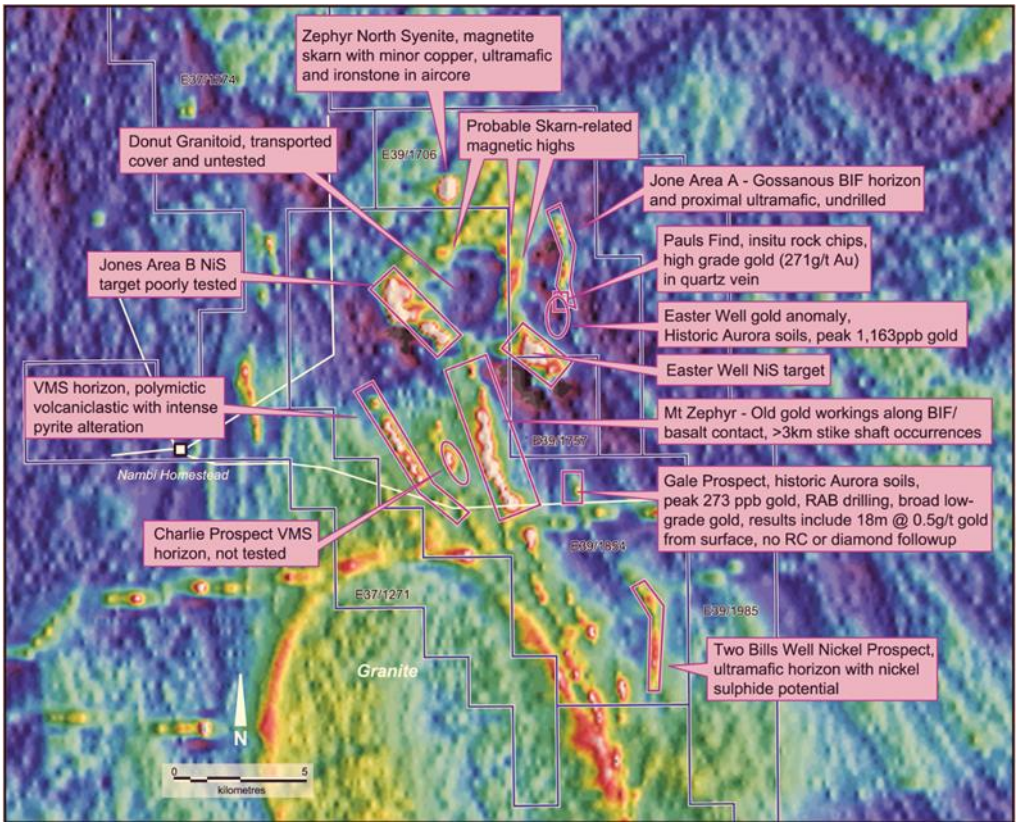

Figure 8 – Mt Zephyr, tenement and key prospects map

Dunns Line of gold prospects

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

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

Jones Area A and B nickel sulphide prospects

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

Soil auger geochemistry is planned ahead of ground EM surveys.

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

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

3.1.2. Bardoc Tectonic Zone Gold Project - Ardea 100%

Ghost Rocks gold prospect

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

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

Big Four gold prospect

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

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

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

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

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

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

4. Tenement acquisition update

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

4.1. Lachlan Fold Belt, NSW

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[10] The potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling.

[10] The potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling.

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

Table 5 Mt Aubrey historic RC drill results.

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

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

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

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

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

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

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

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

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

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

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

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

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

Table 6: Black Bullock prospect historic drill results

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

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

Duckmaloi Tungsten prospect

From 2012 to 2014 part of the tenement area now held by Ardea was held by Resmetco Ltd[20] who explored for tungsten within a prospect known as "Duckmaloi" hosted within skarn style mineralisation. The prospect itself was estimated in an open file report to have an Exploration Target[1] of approximately 375,000 tonnes at 0.2% WO_3 The potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling.

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

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

4.1.4. Status of NSW Applications

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

4.2. Eastern Goldfields, WA

4.2.1. Bedonia West- Ardea 100%

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

4.2.2. Perrinvale- Ardea 100%

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

4.2.3. Status of WA Applications

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

5. Corporate update – Ardea share applications

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

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

About Heron Resources Limited:

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

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

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

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Polished chrysoprase cabochon, KNP

Compliance Statement (JORC 2012 and NI43-101)

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

1. *Lewis Ponds on 9 November 2016 (prospectus lodged by Ardea and Heron);*
2. *Kalgoorlie Nickel Project on 21 October 2013 and 31 July 2014, 27 October 2016, 2016 Heron Annual Report and 6 January 2017;*
3. *Big Four-Goongarrie on 13 March 2012, 26 June 2012 and 24 July 2012.*
4. *KNP Cobalt Zone Study on 6 January 2017*

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

The exploration target for Lewis Ponds, exploration results for Lewis Ponds, Gundagai, Mt Zephyr, BTZ and Kalgoorlie East Tenements, and forward programs contained in this announcement are based on, and fairly represents, information reviewed by Mr Ian Buchhorn, who is a Member of the Australian Institute of Mining and Metallurgy. Mr Buchhorn is a full-time employee of Heron Resources Limited and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results'. Mr Buchhorn has reviewed the Heron announcements the subject of the Second Supplementary Prospectus and consents to the inclusion of the information in the form and context in which it appears. Mr Buchhorn states that the historical exploration results and estimates are an accurate representation of available data and studies for the Yeoval, Mt Aubury and Wiseman's Creek projects and are reflect Mr Buchhorn's on-the-ground knowledge of the regional project areas.

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

The information in this report that relates to Mineral Resources for the Goongarrie South, Big Four and Aubils Prospects is based on information originally compiled by Mr James Ridley in 2008 and 2009 when employed as a Senior Resource Geologist with Heron Resources Limited. The information in this report that relates to Mineral Resources for the Scotia and Black Range Prospects is based on information originally compiled by Snowden Mining Industry Consultants on behalf of Heron in 2004. The Mineral Resource estimates for all five prospect areas have been reviewed, validated and re-interpreted by James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Ridley is now a full-time employee of Ridley Mineral Resource Consulting Pty Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity that he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Ridley consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and ability to complete the Ardea spin-out, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information. Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time. Forward-looking information involves significant risks, uncertainties, assumptions and other factors that could cause actual results, performance or achievements to differ materially from the results discussed or implied in the forward-looking information. These factors, including, but not limited to, the ability to complete the Ardea spin-out on the basis of the proposed terms and timing or at all, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Canada, Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

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

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

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. •Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	• Mt Zephyr, Nord Resources (Pacific) Pty Ltd, 1982, open hole percussion drilling, decline 60 degrees west, only sample BIF, panned to detect gold, and if gold noted, submitted to Analabs, accordingly very poor assay coverage, assay technique not known • Mt Zephyr, Aurora Gold Limited, 1993, RAB drilling, decline 60 degrees west, 6m composites (two rod lengths), assay by AMDEL, 0.01g/t Au detection limit, QAQC replicate assay for each sample, acceptable precision • Mt Zephyr, Newcrest Mining Limited, 2008, assay by Genalysis, 50gm FA with AAS finish, 0.01g/t Au detection limit, presume QAQC but not detailed in available report, 1m RC chips
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	• Refer above, insufficient detail in historic GSWA-held reports, reputable international explorer using standard industry practice of the time
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. •Measures taken to maximise sample recovery and ensure representative nature of the samples. •Whether a relationship exists between sample recovery and grade and whether	• Not known

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

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

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

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

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

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

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

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. •Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Refer reporting in Bob Cotton JORC 2004 and JORC 2012 reporting Refer ASX announcements as follows: • Ardea Resources Prospectus dated 9 November 2016, pages 9-10, 43-48, 67, 83 (JORC 2012 Resource Statement), 95-106 (Tenements). • Heron Annual Report 2016 dated 24 August 2016, section 10.6. • Heron Quarterly Report September 2016 dated 31 October 2016. Both Reverse Circulation Percussion drilling (RCP) and Diamond core drilling (DD) have contributed to the Lewis Ponds resource database. RCP totals 2,190 samples representing 2,566 metres of mineralisation drilling, and DD totals 4,832 samples for 5,048 metres. Total drilling to the date of the Bob Cotton September 2016 report was 54,516 metres comprising: • 117 primary diamond holes for 41,776 metres • 32 wedged diamond holes for 7,159 metres • 7 diamond tails to RCP holes for 159 metres • 62 RCP holes for 5,421 metres • 4 Open Holes (Percussion/Rotary drilling) for 276 metres • The last hole drilled was the diamond tail to TLPRC04010. • The Resource is based on sub-surface samples obtained by the above drilling. Earliest drilling was successful testing of geochemical and/or geophysical anomalism adjacent to historic small mining. This progressed into drilling on grid sections to test the discovered mineralisation at intervals appropriate for good confidence in continuity. The earliest was diamond drilling by Amax commencing 25 October, 1971. The Longyear 44 rig used was top industry standard for the

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

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

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

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

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

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

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

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

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

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

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