Ardea Resources Limited

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ASX Symbol

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Issued Capital

Shares
67,000,747

Unlisted options
12,310,022

Loyalty options
26,436,923

ABN 30 614 289 342

Thick, high-grade cobalt-nickel intersections at Goongarrie South

Assays of metallurgical diamond drill holes show expected extensive mineralisation. Pre-feasibility metallurgical testing is now underway.

Ardea Resources Director Ian Buchhorn and Chair Katina Law examine high-grade cobalt and nickel mineralisation from Goongarrie South.

- Drill holes designed to provide metallurgical test work samples return broad, high-grade mineralisation, as expected.
- Outstanding results, including:
  - AGSD0001, **131m at 0.10% cobalt** and 1.06% nickel **from 34m**
  - AGSD0002, **54m at 0.11% cobalt** and 1.52% nickel **from 10.0m**
  - AGSD0004, **39m at 0.20% cobalt** and 1.35% nickel **from 18.7m**.
- Several high-grade zones within these thick intercepts, including:
  - AGSD0001, **7.2 m at 0.92% cobalt** and 2.19% nickel from 95.6m
  - AGSD0004, **28 m at 0.27% cobalt** and 1.57% nickel from 22m
- Uniform mineral composition over entire thick mineable intercepts.
- Consistency of results and goethite-dominant mineralisation provide for high-quality and stable plant feed for a future mining operation.
- Pre-Feasibility Study hydro-metallurgical leach tests commence this week.

Ardea Resources Limited (ASX: ARL, “Ardea” or “the Company”) is pleased to announce that drill results have been received for the recent diamond drilling program at Goongarrie South (Figure 3). Exceptional results confirm high-grade cobalt and nickel mineralisation (Figure 1), and highlight potentially significant occurrences of scandium.

The purpose of these drill holes was to sample mineralisation that is representative of future mining activities. These samples will be used for the metallurgical test work that is a major part of the Pre-Feasibility Study (PFS) for the KNP Cobalt Zone. This test work will define the mechanisms for recovering cobalt and nickel from the various deposits that constitute the Cobalt Zone.

Cobalt and nickel results from Goongarrie South

Four diamond drill holes were drilled in May 2017. The program totalled 399.7 m with exactly 200 new assays recorded (not including standards, blanks etc.).

Intercepts have been calculated using a two-phase approach. Initially, intercepts are calculated using a 0.5 % nickel cut-off grade. This provides an outline to overall shape of lateritic mineralisation at Goongarrie South and throughout the KNP Cobalt Zone. High-grade cobalt inclusions are then defined using a 0.1 % cut-off.

AGSD0001 **131.0 m at 0.10 % cobalt** and 1.06 % nickel from 34.0 m*,
including 2.0 m at 0.11 % cobalt and 1.02 % nickel from 87.0 m†,
and **7.2 m at 0.92 % cobalt** and 2.19 % nickel from 95.6 m†,
and **4.0 m at 0.29 % cobalt** and 1.55 % nickel from 118.0 m†
and 2.0 m at 0.19 % cobalt and 1.34 % nickel from 152.0 m†

AGSD0002 **54.0 m at 0.11 % cobalt** and 1.52 % nickel from 10.0 m*,
including **38.7 m at 0.13 % cobalt** and 1.52 % nickel from 18.0 m†

AGSD0003 **49.3 m at 0.11 % cobalt** and 1.31 % nickel from 16.6 m*,
including 21.0 m at 0.13 % cobalt and 1.49 % nickel from 24.0 m†,
and 10.0 m at 0.10 % cobalt and 1.19 % nickel from 50.0 m†

AGSD0004 **39.0 m at 0.20 % cobalt** and 1.35 % nickel from 18.7 m*,
including **28.0 m at 0.27 % cobalt** and 1.57 % nickel from 22 m†

The broad 131.0 m thick intercept in AGSD0001 ends in mineralisation. The drill hole has sampled a deep V-shaped zone of mineralised laterite development known as Pamela Jean Deeps. Geologically, the control on this deep mineralisation is most likely a shear zone in the underlying ultramafic sequence which has been susceptible to the penetration of lateritisation to depth. The cross-section interpretation reflects this (Figure 2). This deep weathering has been a locus for thick and locally very high-grade mineralisation.

Within Pamela Jean Deeps, an exceptional result was recorded in AGSD0001 which, in one sample, contained 0.8 m at 1.95 % cobalt and 3.16 % nickel in siliceous asbolite from 95.6 m (Figure 1). This sample came from an interval of high-grade cobalt and nickel in “run-of-mine” goethite mineralisation.

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* Calculated using a 0.50 % nickel cut-off, 2 m minimum intercept, and 4 m maximum internal waste, zones of core loss are taken as an average of the assays above and below (where core loss thickness is less than the maximum internal waste).

† Calculated using a 0.10 % cobalt cut-off, 2 m minimum intercept, and 4 m maximum internal waste, zones of core loss are taken as an average of the assays above and below (where core loss thickness is less than the maximum internal waste).

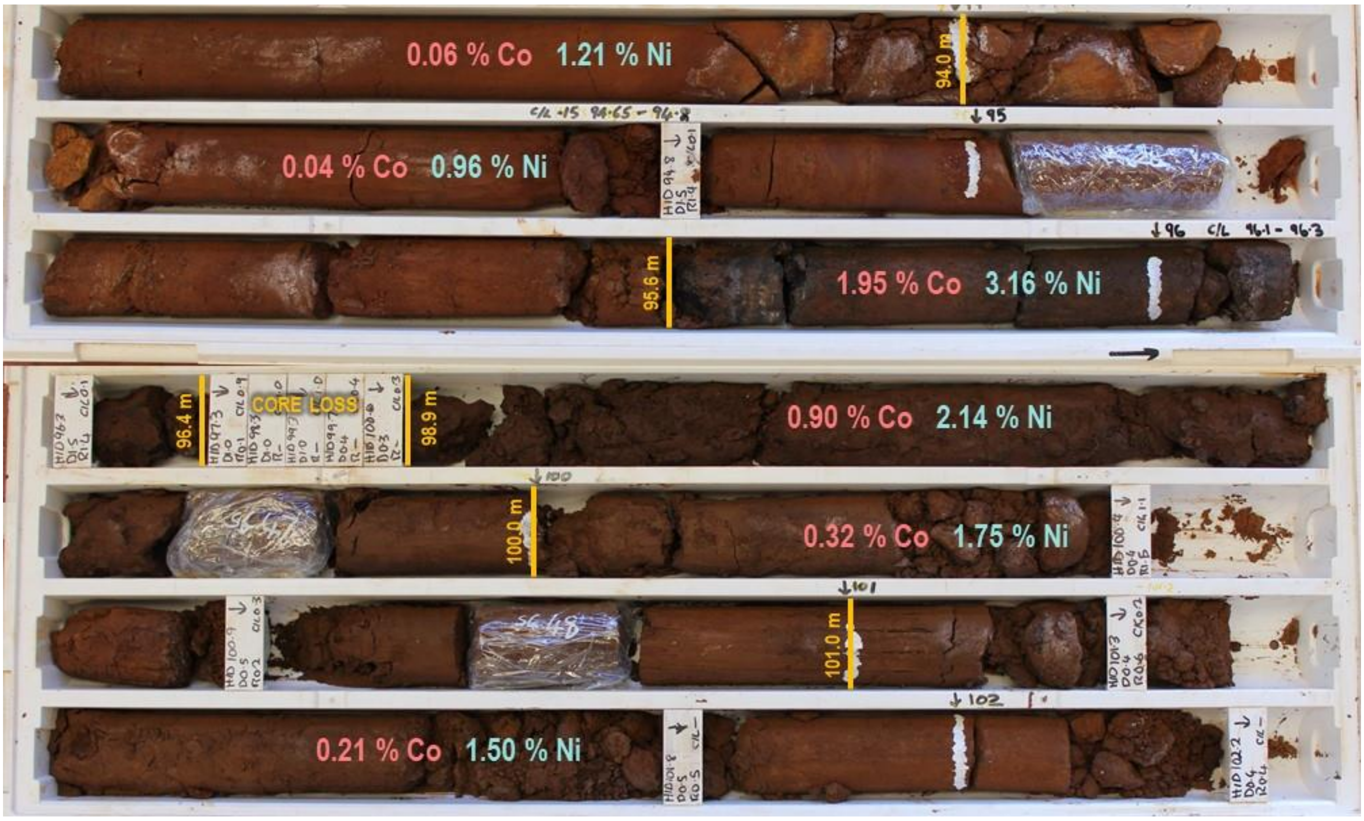


Figure 1 – High-grade cobalt and nickel mineralisation showing cobalt (pink) and nickel (blue-green) grades, with sample intervals (yellow). Note the zone of core loss in the highly mineralised zone and the similarity in the appearance of the drill core above and below. This is typical of other zones of core loss, so grade for these zones is defined throughout Goongarrie South as the weighted mean of the intervals above and below.

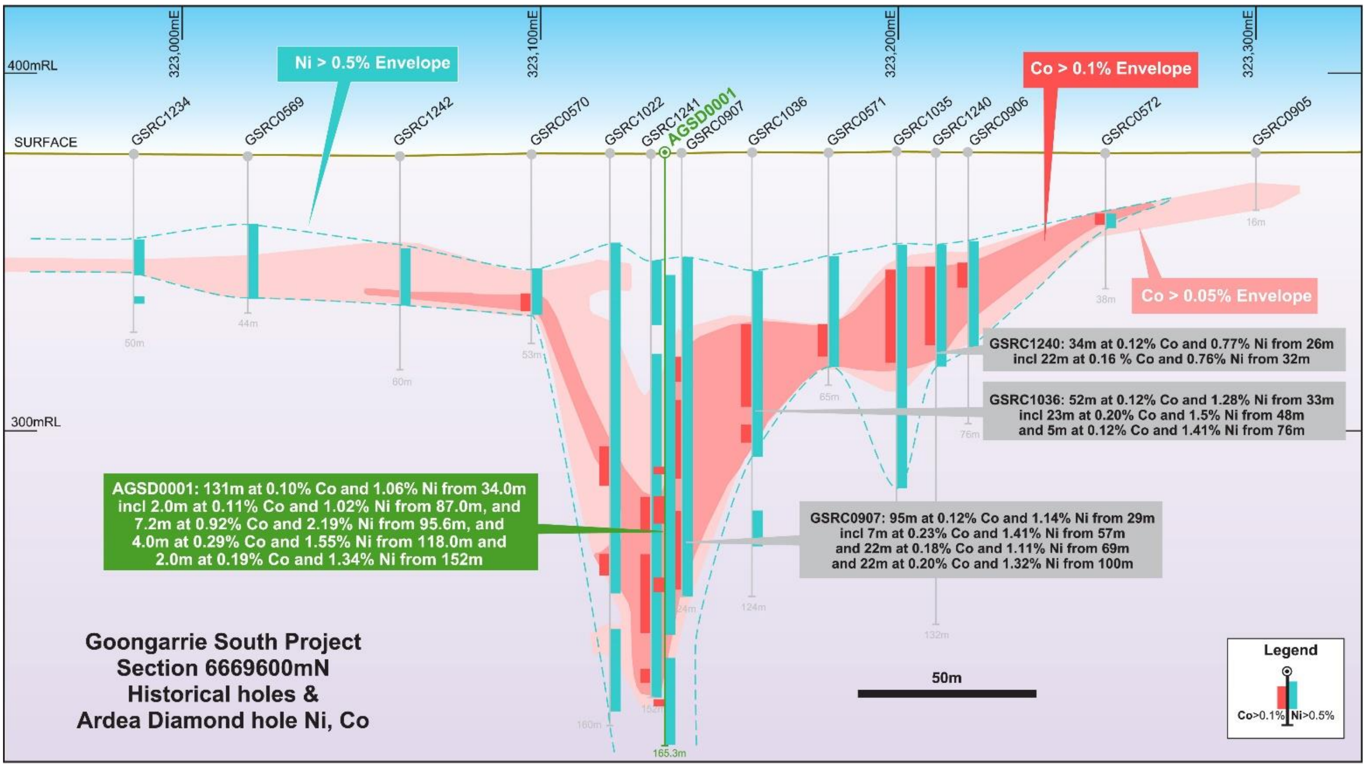


Figure 2 – The 6669600mN section, showing drill hole AGSD0001 with historic holes and mineralisation distributions. The 0.05 % and 0.10 % cobalt grade shells were generated for, and are consistent with, those shown both in the June 2017 resource upgrade and in plan view in Figure 3. Nickel-based intervals (at 0.5 % cut-off) define an envelope encasing cobalt mineralisation.

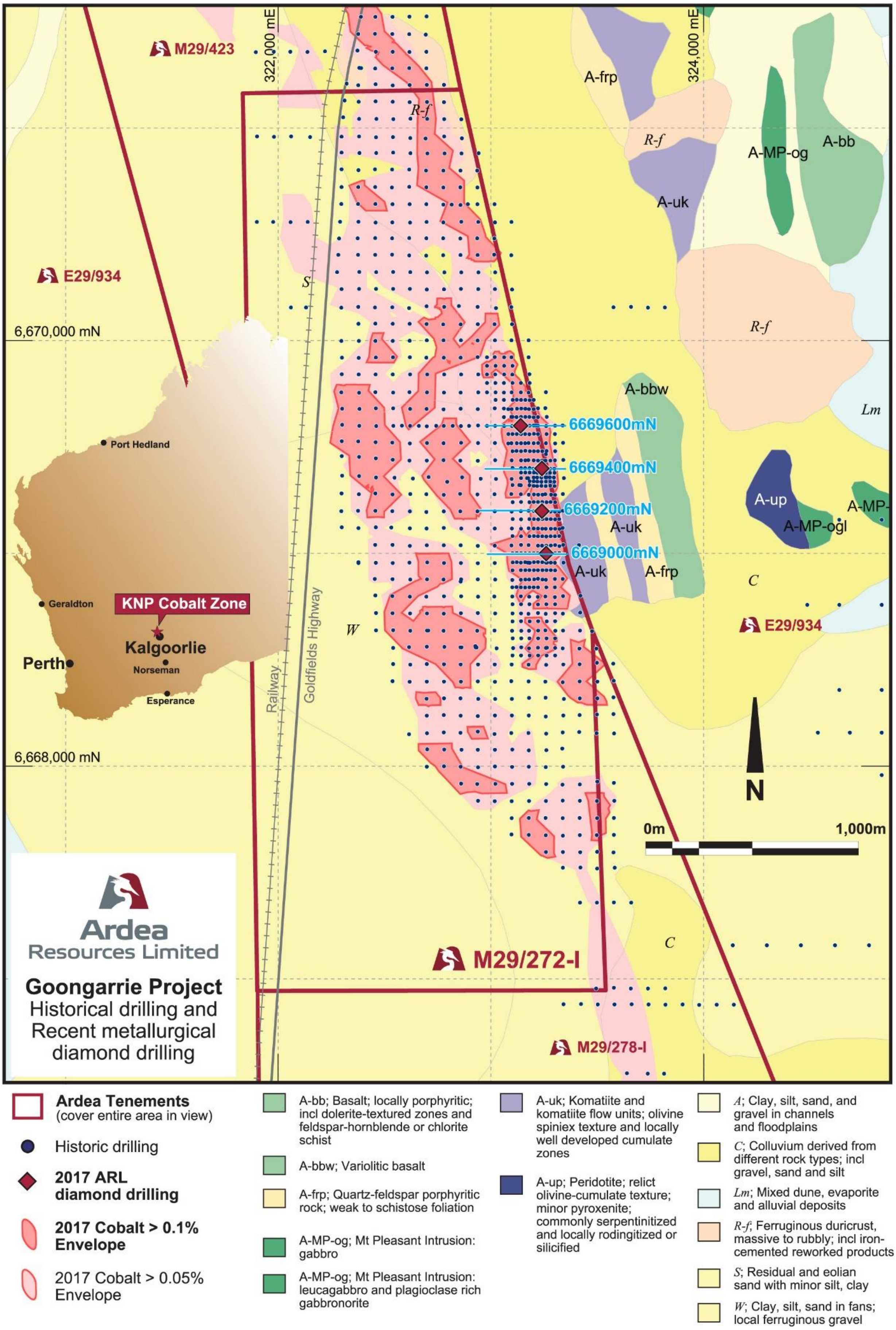


Figure 3 – Location diagram for drilling at the Pamela Jean Deeps area of Goongarrie South. Note that the 0.05 % and 0.10 % cobalt grade shells depicted are those defined for the June 2017 resource upgrade and are consistent with those shown in section in Figures 2 and 4.

Applying Ardea's newly established intercept criteria to the historic holes on the same east-west lines as the new drill holes, the results achieved by this new drilling are consistent with the historic data. Some examples of intercepts from the historic holes include:

GSRC0907 **95.0 m at 0.12 % cobalt** and 1.14 % nickel from 29.0 m‡

including **7.0 m at 0.23 % cobalt** and 1.41 % nickel from 57.0 m§

and **22.0 m at 0.18 % cobalt** and 1.11 % nickel from 69.0 m§

and **22.0 m at 0.20 % cobalt** and 1.32 % nickel from 100.0 m§

GSRC0966 **43.0 m at 0.27 % cobalt** and 1.09 % nickel from 18.0 m‡

including **12 m at 0.84 % cobalt** and 1.70 % nickel from 40.0 m§

GSRC1036 **52.0 m at 0.12 % cobalt** and 1.28 % nickel from 33.0 m‡

including **23.0 m at 0.20 % cobalt** and 1.5 % nickel from 48.0 m§

and 5.0 m at 0.12 % cobalt and 1.41 % nickel from 76.0 m§

GSRC1241 **96.0 m at 0.09 % cobalt** and 1.07 % nickel from 56.0 m‡

including **10.0 m at 0.18 % cobalt** and 1.41 % nickel from 96.0 m§

and 22.0 m at 0.12 % cobalt and 1.07 % nickel from 112.0 m§

and 4.0 m at 0.25 % cobalt and 1.09 % nickel from 144.0 m§

The new assay results were not included in the recently released update to the Goongarrie South resource. These holes were drilled in an area with a drill hole density measuring 40 x 40 metres. The distributions, broad thicknesses, and high intensities of cobalt and nickel mineralisation are similar to adjacent holes. As such, the effect of adding these results to the resource would most likely be negligible to nil.

Scandium and chromium mineralisation at Goongarrie South

Scandium is present in each of the new drill holes though only at moderate levels. Generally, intercept values are around 50 g/t. Two intercepts exceed this:

AGSD0001 34.1 m at 64 g/t scandium from 24.3 m

AGSD0003 10.0 m at 64 g/t scandium from 4.0 m

As at other deposits of the KNP, scandium is present in near-surface concentrations. These new holes are the first recorded assays of scandium at Goongarrie – there have been no previous assays for scandium throughout the Goongarrie area. As such, there is no way to determine the geometry of the scandium-bearing bodies, but it is likely that they are flat lying, near-surface blankets as they are elsewhere.

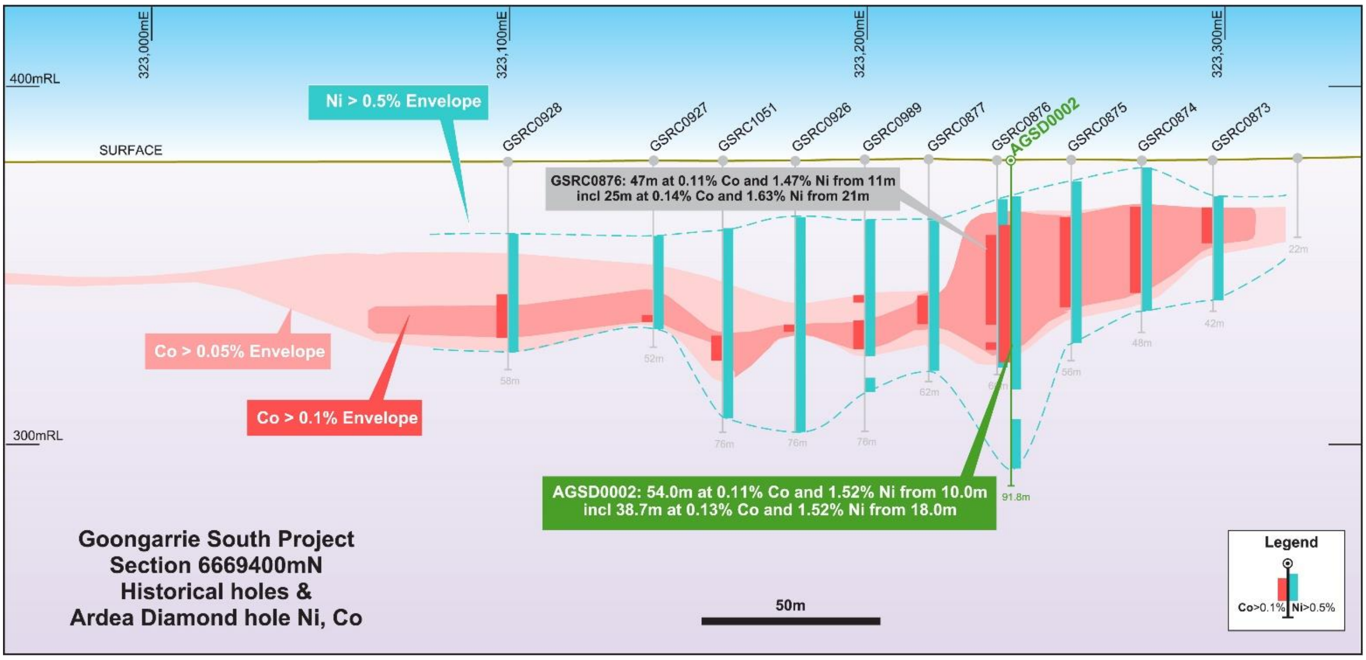
Chromium intercepts are not quoted here, but the lateritic cobalt-nickel mineralisation at Pamela Jean Deeps associated with extensive chromium. There is a loose positive correlation between cobalt and chromium grades, which commonly range between 0.8 % and 4.7 % when associated with cobalt mineralisation.

As with the other accessory metals highlighted by this drill program, the nature of the chromium in the laterite profile at Goongarrie South is unknown and will be the subject of investigation. If the chromium

‡ Calculated using a 0.50 % nickel cut-off, 2 m minimum intercept, and 4 m maximum internal waste, zones of core loss are taken as an average of the assays above and below (where core loss thickness is less than the maximum internal waste).

§ Calculated using a 0.10 % cobalt cut-off, 2 m minimum intercept, and 4 m maximum internal waste, zones of core loss are taken as an average of the assays above and below (where core loss thickness is less than the maximum internal waste).

occurs as residual grains of chromite from the underlying Walter Williams Formation komatiite as resistate minerals within the profile, then a simple separation method (e.g. gravity, magnetic) could be used to separate and commodify the chromium at Goongarrie South. Future testing will evaluate these concepts.



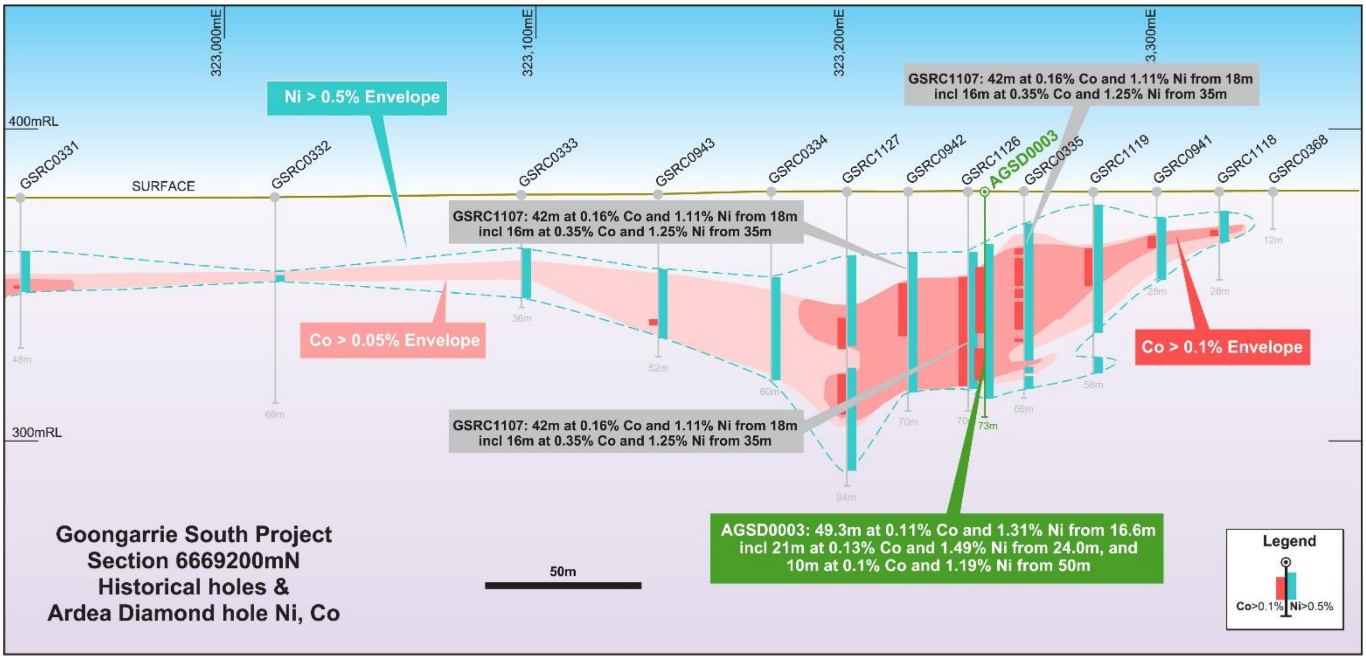


Figure 4 – The 6669400mN and 6669200mN sections, showing drill hole AGSD0002 and AGSD0003 with historic holes and mineralisation distributions. The 0.05 % and 0.10 % cobalt grade shells were generated for, and are consistent with, those shown both in the June 2017 resource upgrade and in plan view in Figure 3. Nickel-based intervals (at 0.5 % cut-off) define an envelope encasing cobalt mineralisation.

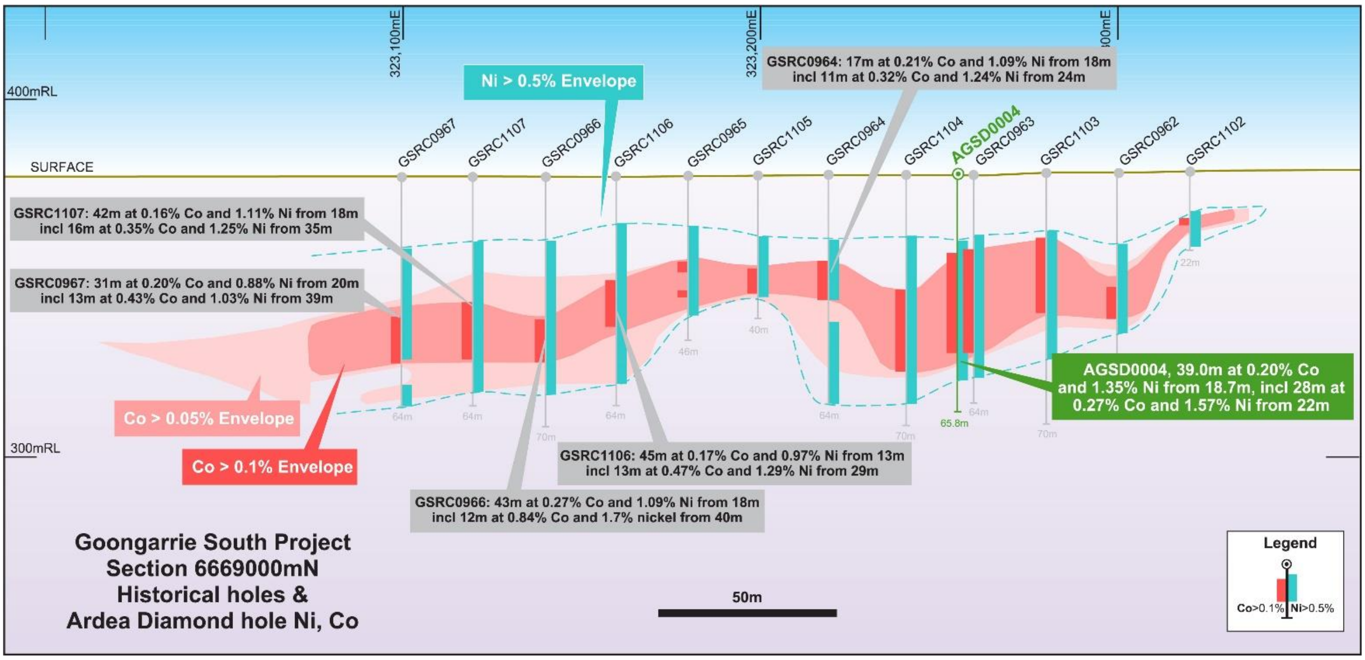


Figure 5 – The 6669000mN sections, showing drill hole AGSD0004 with historic holes and mineralisation distributions. The 0.05 % and 0.10 % cobalt grade shells were generated for, and are consistent with, those shown both in the June 2017 resource upgrade and in plan view in Figure 3. Nickel-based intervals (at 0.5 % cut-off) define an envelope encasing cobalt mineralisation.

Figure 6 – High grade cobalt-nickel mineralisation from around 26.0 m depth in drill hole AGSD0004. As a rule of thumb, higher cobalt and nickel grades correspond to darker material in the drill core. The core in the centre of the left image contains strong mineralisation measuring 0.69 % cobalt and 2.07 % nickel.

Metallurgical test work commences

Through detailed analysis of the drill core and the assay results, and through comparison to historic assay results, the Company is satisfied that the drill core is suitable for use in the metallurgical test work program and provides confirmation of its potential for future mining.

- The mineralisation intersected is remarkably consistent, showing minimal variation in mineralogy, being a massive structureless goethitic clay.
- Mineralisation is typically dry, friable and lacking the problematic “sticky” nontronite clays that have resulted in sub-optimal recoveries at other lateritic nickel and cobalt deposits.

From observations of this core, the expectation is an ability to deliver a uniform plant feed for a long-life mining operation.

Acid leach experiments will commence this week to define optimal digestion methods for the lateritic cobalt and nickel mineralisation of the KNP Cobalt Zone. Tests are expected to continue for 4 to 6 weeks.

Commenting on the latest assay results, Ardea Resources Managing Director, Dr Matt Painter said:

> *“These drilling results are exceptional and confirm Goongarrie South KNP Cobalt Zone to be potentially the premier cobalt-nickel resource in Australia.*
>
> *An outstanding attribute of Goongarrie South is the homogeneity of mineralisation. In hydrometallurgical processing, a standardised plant feed is a major competitive advantage. We expect an ability to deliver a uniform feed that will be ideally suited to a long-life mining operation.*
>
> *We’re very much looking forward to the results of the hydro-metallurgical testing as we progress towards development of the KNP Cobalt Zone.”*

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

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About Ardea Resources

Ardea Resources Limited (ASX: ARL) is a Western Australia-based resources company focused on developing the KNP Cobalt Zone, the richest part of the largest cobalt resource in the developed world. The Company has a high-quality suite of development and exploration assets, including the advanced-stage cobalt-nickel KNP Project near Kalgoorlie in Western Australia, the Lewis Ponds zinc-gold project in New South Wales, and a series of Australian gold and base metal deposits. Ardea Resources is focused on becoming a reliable and ethical producer of cobalt for the booming battery industry, whose growth is driven by the automotive electrification revolution as the world shifts towards zero emissions vehicles.

Compliance Statement (JORC 2012)

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

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

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

The information in this report that relates to the Black Range Exploration Results is based on information originally compiled by current full-time employees of Ardea 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 a director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears.

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, 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 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, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.*

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

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

Appendix 1 – Collar location data, Goongarrie South

New drill holes by Ardea Resources at Goongarrie South

Drill hole	Type	Depth (m)	Date completed	Tenement	Grid	Easting (mE)	Northing (mN)	RL (mASL)	Dip (°)	Azimuth (°)
AGSD0001	DD	165.3	03-May-17	M29/00272	MGA94_51	323134.154	6669598.318	377.907	-90	000
AGSD0002	DD	91.8	07-May-17	M29/00272	MGA94_51	323239.73	6669401.326	379.301	-90	000
AGSD0003	DD	76.8	10-May-17	M29/00272	MGA94_51	323244.182	6669199.582	379.725	-90	000
AGSD0004	DD	65.8	14-May-17	M29/00272	MGA94_51	323256.558	6669001.779	379.021	-90	000

Appendix 2 – Assay results from Goongarrie South

All assays from the 2017 drilling program at Pamela Jean Deeps, Goongarrie South.

Abbreviations used: Co – cobalt, Ni – nickel, Sc – scandium, Cr – chromium, m – metre, g/t – grams per tonne, b.d. – below detection.

Hole	From (m)	To (m)	Width (m)	Sample number	Co (%)	Ni (%)	Sc (g/t)	Cr (%)
AGSD0001	1.9	4	2.1	S200841	b.d.	0.02	b.d.	0.07
AGSD0001	4	6	2	S200842	b.d.	0.02	10	0.21
AGSD0001	6	8	2	S200843	b.d.	0.02	10	0.29
AGSD0001	8	10	2	S200844	0.001	0.03	30	0.28
AGSD0001	10	12	2	S200845	b.d.	0.03	30	0.19
AGSD0001	12	14	2	S200846	0.002	0.03	30	0.20
AGSD0001	14	16	2	S200847	0.001	0.03	10	0.36
AGSD0001	16	18	2	S200848	0.002	0.02	20	0.52
AGSD0001	18	20	2	S200849	0.002	0.03	20	0.66
AGSD0001	20	21.9	1.9	S200851	0.006	0.06	30	0.94
AGSD0001	21.9	22.6	0.7	*AGSD0001_21.9, core loss - no sample*				
AGSD0001	22.6	24.3	1.7	S200852	0.006	0.09	20	1.09
AGSD0001	24.3	26.2	1.9	S200853	0.012	0.19	70	1.68
AGSD0001	26.2	28.2	2	S200854	0.012	0.30	120	1.52
AGSD0001	28.2	30.3	2.1	S200855	0.012	0.35	130	1.60
AGSD0001	30.3	32	1.7	S200856	0.017	0.49	90	0.92
AGSD0001	32	34	2	S200857	0.019	0.44	70	0.92
AGSD0001	34	35.57	1.57	S200858	0.018	0.57	70	0.88
AGSD0001	35.57	36.07	0.5	*AGSD0001_35.57, core loss - no sample*				
AGSD0001	36.07	38.5	2.43	S200859	0.014	0.57	50	0.74
AGSD0001	38.5	40.4	1.9	S200862	0.017	0.82	50	1.27
AGSD0001	40.4	40.8	0.4	*AGSD0001_40.4. core loss - no sample*				
AGSD0001	40.8	43.1	2.3	S200863	0.021	0.80	60	1.37
AGSD0001	43.1	43.8	0.7	*AGSD0001_43.1, core loss - no sample*				
AGSD0001	43.8	44.5	0.7	S200864	0.011	0.53	60	1.11
AGSD0001	44.5	46	1.5	S200865	0.006	0.26	40	1.31
AGSD0001	46	48	2	S200866	0.013	0.38	50	1.35
AGSD0001	48	50.2	2.2	S200867	0.016	1.12	60	2.48
AGSD0001	50.2	52.1	1.9	S200868	0.028	1.50	60	3.39
AGSD0001	52.1	54	1.9	S200869	0.025	1.17	50	3.21
AGSD0001	54	56.3	2.3	S200871	0.026	0.53	50	3.36
AGSD0001	56.3	58.4	2.1	S200872	0.028	0.29	60	2.09
AGSD0001	58.4	59.9	1.5	S200873	0.017	0.92	40	1.60
AGSD0001	59.9	60.3	0.4	*AGSD0001_59.9, core loss - no sample*				
AGSD0001	60.3	62	1.7	S200874	0.021	1.04	30	1.78
AGSD0001	62	63	1	S200875	0.013	0.76	30	1.58
AGSD0001	63	65	2	S200876	0.023	0.96	30	2.22
AGSD0001	65	67	2	S200877	0.028	1.45	30	2.24
AGSD0001	67	69	2	S200878	0.042	1.28	30	1.93
AGSD0001	69	71	2	S200879	0.034	0.97	50	1.97
AGSD0001	71	73	2	S200881	0.038	1.16	50	1.58
AGSD0001	73	75	2	S200882	0.043	1.23	30	1.44
AGSD0001	75	77	2	S200883	0.045	1.34	60	1.49
AGSD0001	77	79	2	S200884	0.040	1.06	30	1.29
AGSD0001	79	81	2	S200885	0.048	1.06	40	1.00
AGSD0001	81	83	2	S200886	0.048	1.09	20	1.10
AGSD0001	83	85	2	S200887	0.057	1.01	20	1.06
AGSD0001	85	87	2	S200888	0.057	1.26	30	1.16
AGSD0001	87	89	2	S200889	0.112	1.02	20	0.98
AGSD0001	89	91	2	S200891	0.057	1.26	10	1.02
AGSD0001	91	92	1	S200892	0.037	1.09	10	1.08
AGSD0001	92	94	2	S200893	0.058	1.21	20	1.11
AGSD0001	94	95.6	1.6	S200894	0.039	0.96	20	1.24
AGSD0001	95.6	96.4	0.8	S200895	1.950	3.16	20	1.20
AGSD0001	96.4	98.9	2.5	*AGSD0001_96.4, core loss - no sample*				
AGSD0001	98.9	100	1.1	S200896	0.897	2.14	30	2.80
AGSD0001	100	101	1	S200897	0.319	1.75	30	2.38

Hole	From (m)	To (m)	Width (m)	Sample number	Co (%)	Ni (%)	Sc (g/t)	Cr (%)
AGSD0001	101	102.8	1.8	S200898	0.213	1.50	30	2.19
AGSD0001	102.8	103.4	0.6	*AGSD0001_102.8, core loss - no sample*				
AGSD0001	103.4	106	2.6	S200901	0.061	1.18	40	3.37
AGSD0001	106	106.2	0.2	*AGSD0001_106, core loss - no sample*				
AGSD0001	106.2	108	1.8	S200902	0.068	1.30	60	4.12
AGSD0001	108	110	2	S200903	0.055	1.29	40	3.39
AGSD0001	110	112	2	S200904	0.064	1.22	60	3.93
AGSD0001	112	114	2	S200905	0.050	1.01	50	2.98
AGSD0001	114	116	2	S200906	0.050	0.78	60	4.47
AGSD0001	116	118	2	S200907	0.046	0.82	60	3.19
AGSD0001	118	120	2	S200908	0.410	1.57	40	2.72
AGSD0001	120	122	2	S200909	0.163	1.53	50	3.38
AGSD0001	122	124	2	S200911	0.099	1.11	30	2.56
AGSD0001	124	126	2	S200912	0.078	1.30	40	2.90
AGSD0001	126	127.3	1.3	S200913	0.052	0.97	40	2.34
AGSD0001	127.3	127.7	0.4	*AGSD0001_127.3, core loss - no sample*				
AGSD0001	127.7	130	2.3	S200914	0.053	0.90	40	2.13
AGSD0001	130	132	2	S200915	0.041	0.67	20	1.80
AGSD0001	132	134.1	2.1	S200916	0.068	0.90	20	1.18
AGSD0001	134.1	134.3	0.2	*AGSD0001_134.1, core loss - no sample*				
AGSD0001	134.3	134.8	0.5	S200917	0.022	0.92	20	1.05
AGSD0001	134.8	135.3	0.5	*AGSD0001_134.8, core loss - no sample*				
AGSD0001	135.3	137	1.7	S200918	0.025	0.47	10	0.46
AGSD0001	137	139	2	S200919	0.012	0.21	10	0.44
AGSD0001	139	140.2	1.2	S200921	0.024	0.35	b.d.	0.44
AGSD0001	140.2	142.3	2.1	S200922	0.049	0.76	10	0.74
AGSD0001	142.3	142.5	0.2	*AGSD0001_142.3, core loss - no sample*				
AGSD0001	142.5	144.1	1.6	S200923	0.045	0.66	20	0.81
AGSD0001	144.1	146	1.9	S200924	0.169	0.84	10	1.05
AGSD0001	146	148	2	S200925	0.046	1.01	10	1.22
AGSD0001	148	150	2	S200926	0.059	0.80	20	0.93
AGSD0001	150	152	2	S200927	0.064	1.28	20	1.71
AGSD0001	152	154	2	S200928	0.194	1.34	20	1.32
AGSD0001	154	156	2	S200929	0.083	1.03	20	1.15
AGSD0001	156	158	2	S200931	0.064	1.32	40	1.45
AGSD0001	158	160	2	S200932	0.094	1.92	30	2.79
AGSD0001	160	162	2	S200933	0.053	1.45	30	1.98
AGSD0001	162	164	2	S200934	0.029	1.05	20	1.74
AGSD0001	164	165.04	1.04	S200935	0.030	0.58	10	0.85
AGSD0002	0.1	2	1.9	S200936	0.001	0.03	b.d.	0.16
AGSD0002	2	4	2	S200937	0.004	0.07	50	0.59
AGSD0002	4	5.6	1.6	S200938	0.003	0.23	70	0.72
AGSD0002	5.6	6.4	0.8	*AGSD0002_5.6, core loss - no sample*				
AGSD0002	6.4	8	1.6	S200939	0.003	0.33	60	0.66
AGSD0002	8	10	2	S200941	0.008	0.37	40	0.76
AGSD0002	10	11.8	1.8	S200942	0.006	0.58	40	1.16
AGSD0002	11.8	12.1	0.3	*AGSD0002_11.8, core loss - no sample*				
AGSD0002	12.1	13.1	1	S200943	0.013	0.70	40	1.53
AGSD0002	13.1	13.6	0.5	*AGSD0002_13.1, core loss - no sample*				
AGSD0002	13.6	16	2.4	S200944	0.020	0.88	40	1.22
AGSD0002	16	18	2	S200945	0.094	1.21	50	1.74
AGSD0002	18	20	2	S200946	0.113	1.08	60	1.47
AGSD0002	20	22	2	S200947	0.291	1.29	60	1.21
AGSD0002	22	24	2	S200948	0.122	1.31	50	1.73
AGSD0002	24	26	2	S200949	0.152	1.89	50	1.63
AGSD0002	26	28	2	S200951	0.126	1.41	50	1.46
AGSD0002	28	30	2	S200952	0.117	1.46	50	1.20

Hole	From (m)	To (m)	Width (m)	Sample number	Co (%)	Ni (%)	Sc (g/t)	Cr (%)
AGSD0002	30	32	2	S200953	0.107	1.55	50	0.95
AGSD0002	32	34	2	S200954	0.090	1.80	40	1.03
AGSD0002	34	36	2	S200955	0.102	1.65	30	1.14
AGSD0002	36	38	2	S200956	0.152	1.77	40	1.10
AGSD0002	38	40	2	S200957	0.126	1.59	30	1.43
AGSD0002	40	42	2	S200958	0.134	1.53	30	1.18
AGSD0002	42	44	2	S200959	0.102	1.23	20	1.06
AGSD0002	44	46	2	S200961	0.178	1.39	30	1.22
AGSD0002	46	48	2	S200962	0.134	1.53	40	1.68
AGSD0002	48	50	2	S200963	0.093	1.53	30	1.66
AGSD0002	50	52	2	S200964	0.094	1.81	30	1.44
AGSD0002	52	54	2	S200965	0.102	1.57	30	1.25
AGSD0002	54	56.7	2.7	S200966	0.107	1.59	30	1.85
AGSD0002	56.7	57.1	0.4	*AGSD0002_56.7, core loss - no sample*				
AGSD0002	57.1	58	0.9	S200967	0.096	1.75	30	1.85
AGSD0002	58	60	2	S200968	0.087	1.90	30	2.13
AGSD0002	60	62	2	S200969	0.056	1.57	20	1.33
AGSD0002	62	64	2	S200970	0.025	0.68	b.d.	0.54
AGSD0002	64	66	2	S200972	0.009	0.34	b.d.	0.25
AGSD0002	66	68	2	S200973	0.006	0.20	b.d.	0.12
AGSD0002	68	70	2	S200974	0.007	0.32	b.d.	0.26
AGSD0002	70	72	2	S200975	0.009	0.32	b.d.	0.34
AGSD0002	72	72.4	0.4	*AGSD0002_72, core loss - no sample*				
AGSD0002	72.4	74	1.6	S200976	0.019	0.55	b.d.	0.53
AGSD0002	74	76	2	S200977	0.068	1.80	10	1.25
AGSD0002	76	78	2	S200978	0.050	1.53	10	0.93
AGSD0002	78	80	2	S200979	0.014	0.36	10	0.23
AGSD0002	80	82	2	S200982	0.013	0.34	b.d.	0.17
AGSD0002	82	84	2	S200983	0.012	0.54	b.d.	0.36
AGSD0002	84	86	2	S200984	0.013	0.75	b.d.	0.50
AGSD0002	86	88	2	S200985	0.013	0.29	b.d.	0.14
AGSD0002	88	90	2	S200986	0.012	0.29	b.d.	0.15
AGSD0002	90	91.8	1.8	S200987	0.012	0.29	10	0.16
AGSD0003	0.1	2	1.9	S200988	0.002	0.02	10	0.14
AGSD0003	2	4	2	S200989	0.002	0.09	40	0.73
AGSD0003	4	6	2	S200991	0.004	0.22	80	0.84
AGSD0003	6	8	2	S200992	0.004	0.20	80	0.76
AGSD0003	8	10	2	S200993	0.006	0.28	60	0.67
AGSD0003	10	11.8	1.8	S200994	0.008	0.42	60	0.73
AGSD0003	11.8	12.1	0.3	*AGSD0003_11.8, core loss - no sample*				
AGSD0003	12.1	14	1.9	S200995	0.007	0.49	50	0.97
AGSD0003	14	16.3	2.3	S200996	0.008	0.29	30	0.96
AGSD0003	16.3	16.6	0.3	*AGSD0003_16.3, core loss - no sample*				
AGSD0003	16.6	18.1	1.5	S200997	0.022	0.88	30	0.86
AGSD0003	18.1	18.3	0.2	*AGSD0003_18.1, core loss - no sample*				
AGSD0003	18.3	20	1.7	S200998	0.032	1.13	40	0.48
AGSD0003	20	22	2	S200999	0.063	1.11	50	0.88
AGSD0003	22	24	2	S201001	0.094	1.12	40	1.05
AGSD0003	24	26	2	S201002	0.136	1.22	30	0.84
AGSD0003	26	28	2	S201003	0.180	1.54	40	1.32
AGSD0003	28	30	2	S201004	0.164	1.70	40	1.24
AGSD0003	30	32	2	S201005	0.146	1.54	40	1.29
AGSD0003	32	34	2	S201006	0.170	1.77	40	1.14
AGSD0003	34	36	2	S201007	0.130	1.80	50	1.26
AGSD0003	36	38	2	S201008	0.156	1.85	30	0.89
AGSD0003	38	40	2	S201009	0.064	1.23	50	1.79
AGSD0003	40	42	2	S201011	0.092	1.24	30	1.11
AGSD0003	42	44	2	S201012	0.112	1.18	20	1.17
AGSD0003	44	45	1	S201013	0.106	1.13	50	1.50
AGSD0003	45	45.3	0.3	*AGSD0003_45, core loss - no sample*				
AGSD0003	45.3	46	0.7	S201014	0.094	1.26	30	1.59
AGSD0003	46	48	2	S201015	0.096	1.47	30	1.66
AGSD0003	48	50	2	S201016	0.096	1.42	40	1.70
AGSD0003	50	52	2	S201017	0.100	1.31	40	1.58
AGSD0003	52	54	2	S201018	0.108	1.26	40	1.58
AGSD0003	54	56	2	S201019	0.107	1.18	50	1.46
AGSD0003	56	58	2	S201022	0.098	1.06	40	1.66
AGSD0003	58	60	2	S201023	0.104	1.14	40	1.65
AGSD0003	60	61.1	1.1	S201024	0.094	0.96	40	1.32
AGSD0003	61.1	61.8	0.7	*AGSD0003_61.1, core loss - no sample*				
AGSD0003	61.8	63.7	1.9	S201025	0.089	1.10	60	2.20
AGSD0003	63.7	64.8	1.1	*AGSD0003_63.7, core loss - no sample*				
AGSD0003	64.8	65.9	1.1	S201026	0.064	1.26	30	1.52
AGSD0003	65.9	66.3	0.4	*AGSD0003_65.9, core loss - no sample*				
AGSD0003	66.3	68.1	1.8	S201027	0.013	0.42	b.d.	0.33
AGSD0003	68.1	70	1.9	S201028	0.008	0.36	b.d.	0.21
AGSD0003	70	72	2	S201029	0.008	0.24	b.d.	0.18
AGSD0003	72	74	2	S201031	0.008	0.24	b.d.	0.26
AGSD0003	74	76.8	2.8	S201032	0.007	0.22	b.d.	0.18
AGSD0004	0.1	2	1.9	S201034	0.001	0.02	b.d.	0.22
AGSD0004	2	3.4	1.4	S201035	0.003	0.05	20	0.75
AGSD0004	3.4	4.3	0.9	*AGSD0004_3.4, core loss - no sample*				
AGSD0004	4.3	6	1.7	S201036	0.002	0.18	30	0.74
AGSD0004	6	8	2	S201037	0.004	0.26	50	1.38
AGSD0004	8	9.9	1.9	S201038	0.004	0.33	80	0.93
AGSD0004	9.9	10.3	0.4	*AGSD0004_9.9, core loss - no sample*				
AGSD0004	10.3	12	1.7	S201039	0.004	0.31	50	0.78
AGSD0004	12	13.7	1.7	S201041	0.005	0.32	40	0.71
AGSD0004	13.7	16	2.3	*AGSD0004_13.7, core loss - no sample*				
AGSD0004	16	18.2	2.2	S201042	0.006	0.32	30	0.91
AGSD0004	18.2	18.7	0.5	*AGSD0004_18.2, core loss - no sample*				
AGSD0004	18.7	20.6	1.9	S201043	0.018	0.88	40	1.52
AGSD0004	20.6	20.9	0.3	*AGSD0004_20.6, core loss - no sample*				
AGSD0004	20.9	22	1.1	S201044	0.083	1.10	50	1.15
AGSD0004	22	24	2	S201045	0.186	1.34	50	0.98
AGSD0004	24	26.5	2.5	S201046	0.694	2.07	30	0.83
AGSD0004	26.5	26.8	0.3	*AGSD0004_26.5, core loss - no sample*				
AGSD0004	26.8	28	1.2	S201047	0.222	1.49	40	1.79
AGSD0004	28	29.5	1.5	S201048	0.198	1.63	50	1.85
AGSD0004	29.5	29.85	0.35	*AGSD0004_29.5, core loss - no sample*				
AGSD0004	29.85	32	2.15	S201049	0.518	1.52	50	1.46
AGSD0004	32	34	2	S201051	0.413	1.77	30	1.46
AGSD0004	34	36	2	S201052	0.335	1.68	40	1.85
AGSD0004	36	38	2	S201053	0.198	1.73	40	1.34
AGSD0004	38	40	2	S201054	0.156	1.69	50	0.99
AGSD0004	40	42	2	S201055	0.070	1.16	40	0.92
AGSD0004	42	44	2	S201056	0.191	1.73	40	1.40
AGSD0004	44	46	2	S201057	0.137	1.30	50	1.67
AGSD0004	46	48	2	S201058	0.163	1.33	40	1.79
AGSD0004	48	50	2	S201059	0.105	1.45	40	2.07
AGSD0004	50	52.4	2.4	S201061	0.050	1.09	20	1.28
AGSD0004	52.4	52.6	0.2	*AGSD0004_52.4, core loss - no sample*				
AGSD0004	52.6	54.8	2.2	S201062	0.017	0.39	b.d.	0.33
AGSD0004	54.8	55.4	0.6	*AGSD0004_54.8, core loss - no sample*				
AGSD0004	55.4	57.7	2.3	S201063	0.021	0.58	b.d.	0.20
AGSD0004	57.7	58	0.3	*AGSD0004_57.7, core loss - no sample*				
AGSD0004	58	60	2	S201064	0.012	0.32	b.d.	0.21
AGSD0004	60	62	2	S201065	0.010	0.24	b.d.	0.18
AGSD0004	62	64	2	S201066	0.009	0.24	b.d.	0.18
AGSD0004	64	65.8	1.8	S201067	0.008	0.26	b.d.	0.15

Appendix 3 – Collated intercepts, Goongarrie South

Parameters used to define nickel, cobalt, and scandium intercepts at Goongarrie South

Parameter	Nickel	Cobalt	Scandium
Minimum cut-off	0.50 % Ni	0.10 % Co	50 g/t Sc
Minimum intercept thickness	2 m	2 m	2 m
Maximum internal waste thickness	4 m	4 m	4 m

Nickel, cobalt, and scandium intercepts from new drilling at Goongarrie South

Drill hole	Nickel intercepts	Cobalt intercepts	Scandium intercepts
AGSD0001	131.0 m at 0.10 % Co and 1.06 % Ni from 34.0 m	2.0 m at 0.11 % Co and 1.02 % Ni from 87.0 m	34.1 m at 64 g/t Sc from 24.3 m
		7.2 m at 0.92 % Co and 2.19 % Ni from 95.6 m	8.0 m at 48 g/t Sc from 69.0 m
		4.0 m at 0.29 % Co and 1.55 % Ni from 118.0 m	15.8 m at 52 g/t Sc from 106.2 m
		2.0 m at 0.19 % Co and 1.34 % Ni from 152.0 m	
AGSD0002	54.0 m at 0.11 % Co and 1.52 % Ni from 10.0 m	38.7 m at 0.13 % Co and 1.52 % Ni from 18 m	6.0 m at 51 g/t Sc from 2.0 m
	13.6 m at 0.03 % Co and 0.85 % Ni from 72.4 m		16.0 m at 53 g/t Sc from 16.0 m
AGSD0003	49.3 m at 0.11 % Co and 1.31 % Ni from 16.6 m	21.0 m at 0.13 % Co and 1.49 % Ni from 24 m	10.0 m at 64 g/t Sc from 4.0 m
		10.0 m at 0.10 % Co and 1.19 % Ni from 50 m	2.0 m at 50 g/t Sc from 20.0 m
			11 m at 37 g/t Sc from 34.0 m
			2.0 m at 50 g/t Sc from 54.0 m
AGSD0004	39 m at 0.20 % Co and 1.35 % Ni from 18.7 m	28 m at 0.27 % Co and 1.57 % Ni from 22 m	6.0 m at 56 g/t Sc from 6.0 m
			11.1 m at 41 g/t Sc from 20.9 m
			8.0 m at 45 g/t Sc from 38.0 m

All newly defined cobalt intercepts at Goongarrie South (calculated both from new data and historic data) were calculated using the following parameters:

- Intercepts based on nickel distributions were first calculated using 0.50 % nickel minimum cut-off, 2 m minimum intercept, and 4 m internal waste. Such parameters define broad intercepts that may be cobalt bearing or cobalt poor. Intercepts are considered of interest where cobalt values exceed 0.08%.
- Intercepts based on cobalt distributions are then calculated using a 0.10 % cobalt minimum cut-off, 2 m minimum intercept, and 4 m internal waste. All significant cobalt intercepts are hosted within the broader nickel-based intercepts and tend to define higher-grade, shorter intercepts.
- Where core loss was an issue, and where the thickness of core loss was less than the internal waste thickness, grades in zones of core loss were taken as the weighted average of the intervals immediately above and below the core loss interval in question. This provides grade distributions downhole that are consistent with mineralised zones, where cobalt and nickel grades are observed to change gradually rather than randomly downhole. By defining zones of core loss as being of a value between the interval above and the interval below, a similarly smooth transition in grades downhole is achieved. This method of estimated grade in zones of core loss is therefore considered the most suitable means of defining grade in such zones at Goongarrie South.
- Where an interval of core loss, through calculation, marked the beginning or end of a mineralised interval, this core loss interval was not included in that mineralisation interval.

Scandium intercepts were defined by using a 50g/t scandium minimum cut-off, a 2 m minimum intercept, and a 4 m internal waste. Scandium intercept distributions do not show a consistent relationship to cobalt and nickel mineralisation and are usually in the shallow subsurface.

Appendix 4 – JORC Code, 2012 Edition, Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques *Note: Due to the similarity of the deposit styles, procedures and estimations used this table represents the combined methods for all Ardea Resources (ARL) Cobalt and Nickel Laterite Resources. Where data not collected by ARL has been used in the resource calculations, variances in techniques are noted.*	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• All holes were sampled "in-principle" on a 2 metre down hole interval basis, with exceptions being made due to visual geological/mineralogical breaks, and end of hole final-lengths. All sampling lengths were recorded in ARL's standard core-sampling record spreadsheets. Sample condition, sample recovery and sample size were recorded for all drill-core samples collected by ARL. • The drill spacing was designed to augment historic drilling, provide sufficient material for the purpose of metallurgical sampling, and to undertake twin-hole geochemical reconciliation data between diamond and historic RC drilling. • Industry standard practice was used in the processing of samples for assay, with 2m intervals of quarter core obtained from standard non-oriented HQ3 (63.5mm diameter) core, and submitted in tied calico bags to ALS laboratories. As the drilling was within a 2012 JORC-compliant Indicated Ni-Co resource, prior knowledge of the resource peculiarities contributes and assists significantly to current interpretation of mineralisation. • Assay of samples utilised standard laboratory techniques with standard ICP-AES undertaken on 50 gram samples for Au, Pt and Pd, and lithium borate fused-bead XRF analysis used for the remaining multi-element suite. Further details of lab processing techniques are found in ***Quality of assay data and laboratory tests*** below.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• In this most recent program, Ardea drilled the Goongarrie South deposit with 4 diamond drill holes on a (Mga94 z51) northing grid-spacing of 200m, beginning at 669600N, and ending at the southern-most hole on 6669000N. Holes were vertical (-90 degree dip), designed to optimally intersect the sub-horizontal mineralisation. Industry standard practice was used in drilling, utilising standard non-oriented HQ3 core. Extremely slow drilling rates were used in order maximise recovery in wet clays.
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.*	• Diamond drill hole sample percent recovery was initially (day by day) recorded by comparing the measured recovered length of core against the recorded drill-rod depth. On hole-completion, the final length of measured core on a hole by hole basis was recorded against the recorded drill-steel lengths to determine overall core loss, as core lost on one rod run, was sometimes recovered on the next run due to core not "breaking" at end of hole but slightly higher up. Holes were marked up on a measured basis rather than by drill-steel length as this was considered the most accurate mark-up technique, with adjustments made as appropriate in areas that it was visually apparent core had been loss due to excess

Criteria	JORC Code explanation	Commentary
		water from drilling. Overall estimated recovery was approximately 93%, which is considered to be acceptable for nickel-cobalt laterite deposits. Recovery was calculated by dividing the core lost by the total stated core drilled (calculated by drill-steel length sum) and subtracting that percentage total from 100%. Diamond core condition was recorded using a four-code system, DR=Dry, DA=Damp, W=Wet, SA=Saturated. The majority of samples were damp, with a few dry samples recorded. • Measures taken to ensure maximum core recoveries included slow drilling and use of a diverse range of muds (ground-condition appropriate), as well as regular reciprocal communication with the drillers when variable to poor ground conditions were encountered. • There does not appear to be any statistically significant bias in grades due to sample recovery, particularly given the high percentage recovery.
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.*	• Drilling was undertaken for metallurgical purposes, and twinning comparison with previous historic RC holes. The level of logging detail utilised supports this type of review and was as follows: Visual geological logging was completed for all drilling both at the time of drilling (using standard Ardea laterite logging codes), and later over relevant met-sample intervals with a metallurgical-logging perspective. Geochemistry from historic data was used together with logging data to validate logged geological horizons. Nickel laterite profiles contain geochemically very distinct horizons and represent a sound validation tool against visual logging. The major part of the logging system was developed by Heron Resources Limited specifically for the KNP and was designed to facilitate future geo-metallurgical studies. It has been customised by Ardea Resources Limited as considered appropriate for recent developments. Planned drill hole target lengths were adjusted by the geologist during drilling. The geologist also oversaw all sampling and drilling practices. A mixture of ARL employees and contract geologists supervised all drilling. Quarter core of all drilling has been retained for reference. • The geological legend used by ARL is a qualitative legend designed to capture the key physical, geological and metallurgical features of the nickel-cobalt 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 Resources Limited for the Yerilla Nickel Project for material type prediction from multi-element assay data. • 400m of drilling was undertaken. 100% of all recovered drill core was logged.
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.*	• Core was 100% quarter-core sampled for geochemical analysis, and selected half-core was sampled for metallurgical test work. Remaining quarter core has been retained for reference. Core was sawn using a brick saw where competent, and cut with suitably sharp knife/spatula where ductile clays were of sufficient softness. Where friable material existed a visual best-estimate of ¼ of the core along the relevant length was selected. The soft-clay component constituted >90% of core-cutting material. • Quarter-core and half-core sampling is standard industry techniques used for varieties of analyses. Quarter-core was considered appropriate for assay in this case due to the general homogeneity of the orebody and an abundance of historical drill-hole comparison data which can be used for confirmation in this regard. Half core was of sufficient size to obtain the appropriate amount of sample material suitable for metallurgical test work. • QAQC was employed. A standard, or blank was inserted into the sample stream 10 metres on a rotating basis. Standards were quantified industry standards. • Utilising previous and current knowledge of the orebody as well as the scale of mining which would be

Criteria	JORC Code explanation	Commentary
		under consideration, 2m intervals generally were deemed an appropriate level of detail for metallurgy related studies.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All Ardea samples were submitted to Kalgoorlie ALS laboratories and transported to ALS Perth, where they were pulverised. Analysis at ALS Perth was by ICP utilising a 50g charge (lab method PGM-ICP24) for PGM suite elements (Au, Pt, Pd). Additional analysis was undertaken by sending subsamples to ALS Brisbane where analysis by silicate fusion / XRF analysis (lab method ME-XRF12n) for multiple grade attributes for laterite ores (Al_2O_3, As, BaO, CaO, Cl, Co, Cr_2O_3, Cu, Fe_2O_3, Ga, K_2O, MgO, MnO, Na_2O, Ni, P_2O_5, Pb, Sc, SiO_2, SO_3, SrO, TiO_2, V_2O_5, Zn, ZrO_2). Fusion / XRF analysis is an industry standard method used to analyse nickel laterite ores and ALS is a reputable commercial laboratory with extensive experience in assaying nickel laterite samples from numerous Western Australian nickel laterite deposits. • ALS routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring. • Ardea also inserted QAQC samples into the sample stream at a 1 in 10 frequency, alternating between blanks (industrial sands) and standard reference materials. Additionally, a review was conducted for geochemical consistency between historically expected data, recent data, and geochemical values that would be expected in a nickel laterite profile. • All of the QAQC data has been statistically assessed. There were rare but explainable inconsistencies in the returning results from standards submitted, and it has been determined that levels of accuracy and precision relating to the samples are acceptable.
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.*	• No independent verification has been undertaken. • All four diamond drill holes were close enough to represent twinned holes of previous RC drilling, with a greatest distance of <=6m from nearby collars. • A review of logged geology and geochemical domains within drill holes reconciles consistently with values that would be expected within the lateritic profiles of both areas. Data values are within the numerical ranges that are consistent with proximal drill hole values for the respective orebodies (i.e. values are not considered outliers or skewed). It should be noted that individual grade variations appear more extreme within RC drilling, however overall average grades are consistent and in this regard, there are no apparent aberrant or material grade differences between drill holes. • 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. • All holes drilled as part of the Goongarrie South program were vertical. No holes were down-hole surveyed except at EOH. The sub-horizontal orientation of the mineralisation, combined with the soft nature of host material resulted in minimal deviation of vertical diamond drill holes. • 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. • A DGPS pickup up of drill collar locations is considered is considered sufficiently accurate for reporting of resources, but is not suitable for mine planning and reserves.
Data spacing and	• *Data spacing for reporting of Exploration Results.*	• This drill program at Goongarrie South was drilled at a grid spacing of 200mN.

Criteria	JORC Code explanation	Commentary
distribution	• *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.*	• Given the homogeneity of this style of orebody, the spacing is, for bulk-scale metallurgical work and probable mining techniques, considered sufficient. • Sample compositing has not been applied to the newly collected data.
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.*	• All drill holes in this program were vertical and give a true width of the regolith layers and mineralisation within the modelled resource. • On a local scale, there is some geological variability in the northern most drill line (6669600mN) due to a probable shear structure. However, 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. As the detailed shape of the orebody has already been well defined by an abundance of nearby resource drill holes (including the northern section) it is no bias is expected to be introduced from data pertaining to these drill holes with reference to mineralised structures.
Sample security	• *The measures taken to ensure sample security.*	• All samples were collected and accounted for by ARL employees/consultants during drilling. All samples were bagged into calico plastic bags and closed with cable ties. Samples were transported to Kalgoorlie from logging site by ARL employees/ consultants and submitted directly to ALS Kalgoorlie. • The appropriate manifest of sample numbers and a sample submission form containing laboratory instructions were submitted to the laboratory. Any discrepancies between sample submissions and samples received were routinely followed up and accounted for.

Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• ARL 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 ALS Laboratory was visited by ARL staff in 2016, and the laboratory processes and procedures were reviewed at this time and determined to be robust.

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 on which the Goongarrie South drilling was undertaken is M29/272. • 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 deposit was initially discovered by Heron Resources Ltd and subsequently drilled by Vale Inco Limited in a Joint Venture. Much historic assessment of the Black Range Project was undertaken by Heron Resources Limited.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The KNP nickel-cobalt laterite mineralisation developed during the weathering and near surface enrichment of Archaean-aged olivine-cumulate ultramafic units. The mineralisation is usually within 60 metres of surface and can be further subdivided 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.*
		• All holes drilled in this most recent program are listed in "Appendix 1 – Collar location data, Goongarrie South". Also listed are all historic drill holes from programs for which ARL holds at least some assay data.

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.*	• All assay data relating to the metals of interest at Goongarrie South, namely cobalt, nickel, scandium, and chromium, are listed in "Appendix 2 – Assay results from Goongarrie South". Other elements were assayed but have not been reported here. They are of use and of interest from a scientific and metallurgical perspective, but are not considered material and their exclusion does not detract from the

Criteria	JORC Code explanation	Commentary
		understanding of this report.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.*
	• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*
	• *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.
		• All newly defined cobalt intercepts at Goongarrie South (calculated both from new data and historic data) were calculated using the following parameters:
		  • Intercepts based on nickel distributions were first calculated using 0.50 % nickel minimum cut-off, 2 m minimum intercept, and 4 m internal waste. Such parameters define broad intercepts that may be cobalt bearing or cobalt poor. Intercepts are considered of interest where cobalt values exceed 0.08%.
		  • Intercepts based on cobalt distributions are then calculated using a 0.10 % cobalt minimum cut-off, 2 m minimum intercept, and 4 m internal waste. All significant cobalt intercepts are hosted within the broader nickel-based intercepts and tend to define higher-grade, shorter intercepts.
		  • Where core loss was an issue, and where the thickness of core loss was less than the internal waste thickness, grades in zones of core loss were taken as the weighted average of the intervals immediately above and below the core loss interval in question. This provides grade distributions downhole that are consistent with mineralised zones, where cobalt and nickel grades are observed to change gradually rather than randomly downhole. By defining zones of core loss as being of a value between the interval above and the interval below, a similarly smooth transition in grades downhole is achieved. This method of estimated grade in zones of core loss is therefore considered the most suitable means of defining grade in such zones at Goongarrie South.
		  • Where an interval of core loss, through calculation, marked the beginning or end of a mineralised interval, this core loss interval was not included in that mineralisation interval.
		• Scandium intercepts were defined by using a 50g/t scandium minimum cut-off, a 2 m minimum intercept, and a 4 m internal waste. Scandium intercept distributions do not show a consistent relationship to cobalt and nickel mineralisation and are usually in the shallow subsurface.
		• Assay compositing techniques were not used in this assessment.
		• 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 (e.g. 'down hole length, true width not known').*	• The nickel-cobalt laterite mineralisation at Goongarrie South has a strong global sub-horizontal orientation. • All drill holes are vertical. • All drill holes intersect the mineralisation at approximately 90°to its orientation Mineralisation in AGSD0001 vees down into a probable underlying, steeply-dipping structure, but the vertical drilling is considered indicative of the true thickness of the mineralisation profile.
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.*	• Maps and sections of the cobalt and nickel mineralisation are shown within the report. Every drill hole on every section drilled is shown.
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 results are report either in the text or in the associated appendices. Examples of high-grade mineralisation are labelled as such.
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*	• No other data are, at this stage, known to be either beneficial or deleterious to recovery of the metals reported. Uncertainties surrounding the possibility of recovery of the metals of interest are noted

Criteria	JORC Code explanation	Commentary
	results; bulk samples size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	prominently in the report.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further drilling is likely to be undertaken at Goongarrie South but has not yet been defined. Further drilling could include infill drilling as well as extension of lines to the north and south as appropriate. • Metallurgical assessment of all metals of interest at Goongarrie South will be undertaken during the Pre-Feasibility Study (PFS) which has commenced on the KNP Cobalt Zone.