Ardea Resources Limited

Maiden Resource for Big Four Gold Project, WA

- Initial JORC 2012 Inferred Mineral Resource at Big Four Gold of **178 kt at 2.7 g/t gold,** (0.5 g/t Au cut off) for **15,300 oz gold**
- Resource incorporates results from January 2020 drilling (ASX release 26 February 2020), including:
  - **18 m at 3.38 g/t gold from 18 m;**
  - **14 m at 2.40 g/t gold from 6 m; and**
  - **20 m at 2.91 g/t gold from 76 m**.
- Gold mineralisation starts within 5 m of surface.
- Mineralisation open down plunge.

Ardea Resources Limited (Ardea, ARL or the Company) is pleased to announce a maiden Inferred Mineral Resource estimate, following JORC Code (2012) guidelines, for its Big Four Gold deposit located within the Goongarrie Nickel Cobalt Project (GNCP) 70 kilometres north of the City of Kalgoorlie-Boulder. A summary of the Mineral Resource estimate is:

Table 1: JORC 2012 Inferred Mineral Resource estimate for the Big Four Gold deposit (0.5 g/t Au cut-off). All figures rounded to appropriate significant figures reflecting certainty of data.

Resource category	Cut-off Au g/t	Tonnes (kt)	Gold (g/t)	Contained gold (oz)
Inferred	**≥ 0.5**	**178**	**2.7**	**15,300**

Ardea Managing Director, Andrew Penkethman, commented:

"Ardea is highly encouraged by the maiden Big Four Gold resource, especially given that we only drilled the target for the first time in January this year. The resource confirms the gold prospectivity of the Bardoc Tectonic Zone (BTZ) within Ardea's extensive tenement base. The Big Four gold mineralisation was exposed in old workings at surface, but most of the BTZ structure on Ardea's tenements is hidden by transported sediments and the development of the laterite profile. On-going exploration for gold within Ardea's Eastern Goldfields tenements is expected to define multiple new zones of mineralisation.

With the Big Four Gold resource located on a granted Mining Lease, options will be considered as to how best to monetise this asset. This is in addition to unlocking the exploration and production potential of Ardea's large Eastern Goldfields land holding for gold and nickel sulphide in parallel to de-risking the nickel-cobalt resources within the broader Kalgoorlie Nickel Project.

Most importantly, potential future mining at Big Four Gold will provide valuable insights as to mine scheduling and geo-technical performance within the broader GNCP."

ASX & Media Release

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ASX Symbol

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Issued Capital

Fully Paid Ordinary Shares
117,300,435

Directors/Employee Performance Rights
4,476,000

ABN 30 614 289 342

Big Four Gold Mineral Resource Summary

Infill and extensional drilling completed by Ardea in January 2020 (ASX release 26 February 2020) and historic data collated by the Company has enabled estimation of an Inferred Mineral Resource.

Project Location

The historic Big Four Gold mine is situated on the Geological Survey of WA Bardoc 1:100,000 map sheet, and located on the Mt Vetters Pastoral Lease, approximately 70 kilometres north northwest of Kalgoorlie in Western Australia.

Excellent access to the Big Four area from Kalgoorlie is provided via the sealed Goldfields Highway which passes immediately west of the Ardea mining tenements encompassing Ardea's Big Four nickel laterite deposit and the historic Big Four Gold mine (Figure 1). Station and fence line tracks as well as cleared grid lines provide easy internal access.

The Big Four Gold Prospect lies within granted Mining Lease (M24/778) 100% owned by Ardea with a Native Title agreement in place.

Ardea holds some 65 km of BTZ located at the eastern contact of its GNCP nickel laterite resources. This location is the dominant site of proposed GNCP infrastructure including waste dump landforms, so quantifying and potentially accommodating gold prospectivity is a key aspect of GNCP planning.

Geology and Geological Interpretation

Based on Goongarrie area observations by the Ardea geology team and work undertaken by Witt (1992), the Big Four Gold area is a northerly continuation of the western greenstones of the Bardoc to Paddington belt within the BTZ. The regional geology over the Big Four area is shown below (Figure 2). The host greenstone sequence, which correlates with that hosting major gold-mines at Paddington and Ora Banda, is generally poorly exposed. The Siberia Komatiite is intruded by numerous hornblende-bearing porphyries, and it is within and along the margins of one of these porphyries that orogenic gold mineralisation is located at Big Four. The porphyry is subvertical to steeply east dipping, and trends around 345˚.

Orogenic gold mineralisation at Big Four Gold is hosted predominantly within and along the margins of the intermediate porphyry with the host Siberia Komatiite in subvertical shear zones and moderate to shallow dipping vein sets. Gold is associated with strong alteration that is commonly pyritic, so is visually easily identifiable. Mineralisation is characterised by sporadic high grades distributed within a more moderate grade halo. High gold grades occur along the steeply dipping shears, particularly along the porphyry margins and the more shallowly dipping quartz vein sets.

The Big Four porphyry is pervasively albitised and variably recrystallized but the timing of this alteration with respect to gold mineralisation, and the origin of the albitisation, is uncertain. Chloritisation is associated with gold mineralisation along anastomosing micro-shears, and broader zones of chloritisation subparallel to the shear fabric that typically parallel the porphyry contact. Ultramafic rocks are locally converted to talc-chlorite+/-tremolite schist. Local brecciation and silicification of the porphyry are associated with gold mineralisation, however, the detailed relationships between these styles of mineralisation are unknown due to a lack of exposure and historic diamond drilling.

Ardea has undertaken appropriate 3-D geological modelling to constrain resource estimation based on all the available historical and recent (Ardea) drilling data and observations recorded in historical reports submitted to DMIRS. The following features were interpreted and corresponding wireframe solid or surface models generated:

- 3-D extents of porphyry intruding komatiite (two domains);
- Gold mineralisation extents (two domains) based on a notional 0.5 g/t Au lower cut-off grade, with 1m downhole external dilution added where edge samples $\geq$ 1.0 g/t Au;
- Base of transported and regolith of unrecognisable protolith material;
- Base of soft and medium hardness rocks as proxy to divide the weathering profile into strongly weathered, moderately weathered and fresh rock protolith.

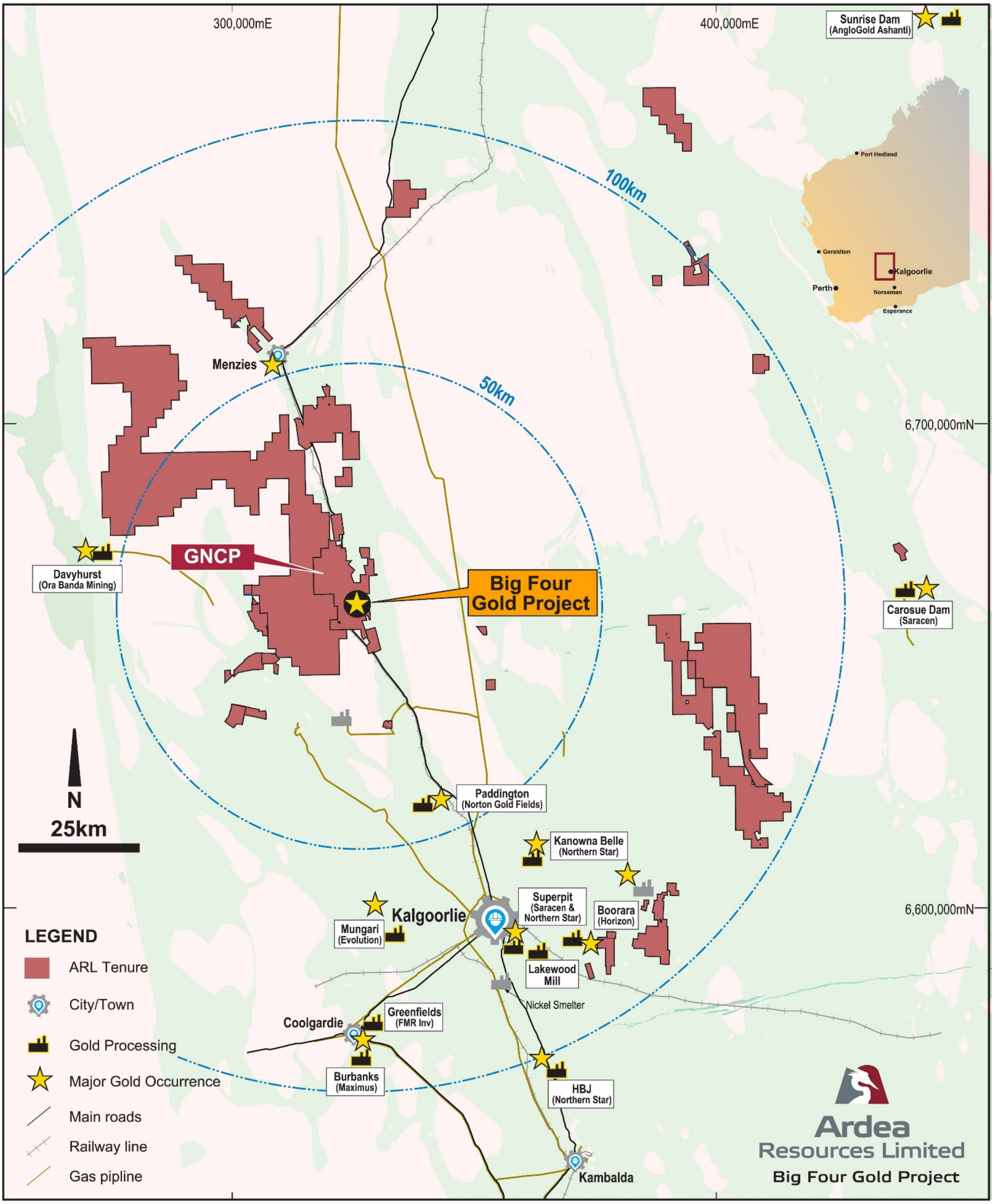


Figure 1: Location plan highlighting Ardea's tenure, infrastructure and gold processing plants in the region. Projection: GDA94 MGA Zone 51.

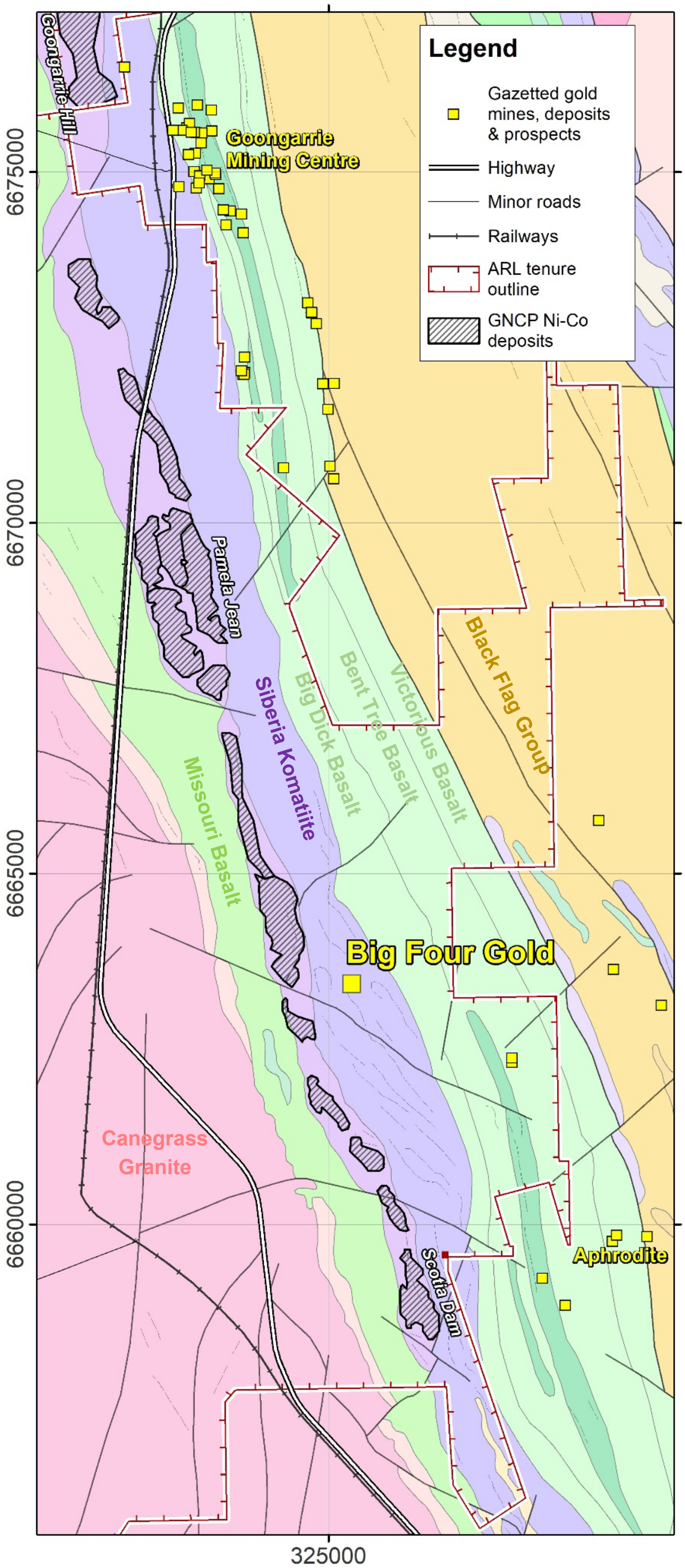


Figure 2: Regional geology over the Big Four area (GSWA interpretation: pink=granite, green=mafic rocks, purple=ultramafic rocks, yellow=felsic supracrustal rocks). Big Four Gold deposit is hosted within the Siberia Komatiite (purple). Projection: GDA94 MGA Zone 51.

History

Limited historic mining at Big Four during the 1920s to 1930s recovered and processed 571.5t of ore for 10.53kg gold (~339oz gold), at an average grade of 18.4 g/t Au. Treatment was through an on-site battery, with white tailings sand remnants still present. The gold occurrence cropped out at surface so was discovered by prospectors. In contrast, most of Ardea's tenure is covered by shallow alluvial cover and/or the development of a laterite profile which obscures the underlying basement gold potential.

Sampling and Sub-Sampling Techniques

Sampling from both diamond and RC drilling has been used in the resource estimate.

HQ and NQ size core from two percussion-diamond drillholes completed by Coopers Resources in 1984 were sampled over variable length intervals based on geology and whole core samples submitted for analysis by fire assay for Au at Analabs in Kalgoorlie. Chips from the percussion precollars were collected over 1 m downhole intervals and riffle split to generate 2 kg subsamples despatched for laboratory analysis. These splits were combined to produce 2 or 3 m composite samples for the longer percussion precollar in the second hole.

Chip samples from the RC drilling completed by Coopers in 1987, 1988 and 1989, Goldfields Exploration in 1999 and Heron Resources in 2012 were collected over 1 m downhole intervals via a cyclone into large plastic bags.

The 1 m samples from the Coopers RC drilling completed in 1988 and 1989 were riffle split to produce 2 kg subsamples which were despatched to Analabs in Kalgoorlie for fire assay fusion and AAS finish using a 50 g charge.

Sub-sampling of the 1 m samples from the Heron RC drilling was predominantly by cone splitting over mineralised intervals, and by cone splitting, scoop or spear sampling in unmineralized material. Sub-samples were submitted to UltraTrace in Perth for fire assay fusion and ICP-AES finish on 40g sample charges.

Samples from the Ardea RC drilling were collected over 1m intervals via a cyclone into large plastic bags. Mostly 2 m composite sub-samples for laboratory analysis were collected via a cone splitter mounted beneath the cyclone. Sample condition, sample recovery and sample size were recorded for all samples collected by Ardea.

Discussion of the sampling techniques relating to the four early RC holes drilled by Coopers in 1984 and the two RC holes drilled by Goldfields Exploration in 1999 is presented in Appendix 1 (JORC Table 1).

Drilling Techniques

Previous explorers completed 68 RC holes and two diamond drill holes (DD) for 5,120 metres of historical drilling. In January 2020, Ardea completed 11 RC drill holes for 738 metres of drilling. A total of 81 drill holes (79 RC and two DD) for 5,858 metres was considered when defining the Big Four resource (Table 1). A drill hole collar plan is shown below for context (Figure 4), along with three representative cross sections (Figures 5, 6 and 7) and a long section (Figure 8).

Company	DH Type	No Holes	Total Metres	Depth		
				Min	Max	Mean
Coopers	RC	35	1,314	12	60	38
	DD	2	76	32.5	43	38
Heron	RC	31	3,500	36	234	113
Ardea	RC	11	738	23	130	67
Goldfields	RC	2	230	100	130	115
All	**All**	**81**	**5,858**	**12**	**234**	**72**

Table 1: Summary of drilling used for Big Four Gold resource estimate.

While no details are available on the methods, equipment or accuracy applicable to the determine the locations of the Coopers drillhole collars, it appears likely that they were all surveyed using a theodolite, either in reference to

AMG or local grid coordinates. All of the Heron and Ardea drillhole collars were surveyed by licensed surveyors using DGPS equipment. Historic collar positions were validated by Ardea to facilitate resource estimation.

Most drill holes were drilled towards the southwest (mostly bearing 245˚) and at an inclination of -60˚.

While none of the shallow drilling completed by Coppers was downhole surveyed, most of the Heron drillholes and all of the Ardea drillholes were downhole surveyed using a gyro downhole survey orientation tool. The porphyry and mineralisation drill intersections in the Coopers holes located in close proximity to the more recent Heron and Ardea drillholes show good correlation indicating that drillhole sample locations are accurately located and suitable for use in resource estimation.

Resource Classification

The entire Big Four Gold resource estimate is classified as an Inferred Mineral Resource under JORC (2012) criteria. The Inferred Resource is estimated to be **178 kt at 2.7 g/t gold**, when using a 0.5 g/t Au cut off. The Resource is estimated to contain approximately **15,300 ounces gold**.

The grade sensitivity of the Inferred Mineral Resource, based on various Au cut-off grades, is shown below.

	Cut-off Au g/t	Tonnes	Grade Au g/t	Contained gold (oz)
Inferred Resource	≥ 0.00	194,000	2.5	15,400
	≥ 0.50	**178,000**	**2.7**	**15,300**
	≥ 1.00	151,000	3.0	14,600
	≥ 1.5	118,000	3.5	13,300
	≥ 2.00	92,000	4.0	11,800

Table 2: Inferred resource estimate and cut-off sensitivity for the Big Four Gold deposit, reported above different Au cut-off values. The base case estimate (highlighted) uses a 0.5 g/t Au cut-off. The tonnage figures have been rounded to the nearest thousand tonnes. Au grades rounded to the nearest decimal. Contained gold is rounded to the nearest 100 oz.

In making this classification, numerous factors have been considered, including:

- Drill data spacing varies from 5 m x 5 m to 20 m x 20 m over the majority of the deposit, down to a depth of approximately 100 metres below surface, with coordinate accuracy sufficient for the style of mineralisation (could potentially be Indicated to Measured status but downgraded to Inferred to reflect historic data component).
- The continuity of gold mineralisation along modelled domains is generally very good, however the tenor of the sample gold grades in high grade material is locally erratic supporting the presence of coarse gold observed in drill samples through panning (solely for geological logging, concentrates not assayed). Importantly, the occurrences of visible gold tends to consistently occur within a range of 10 to 40 g/t Au.
- Several drill holes intercepted voids that represent underground workings and likely corresponded to gold mineralisation. These appear to coincide with the location of historically mined high-grade gold mineralisation located close to the historical underground workings exposed at surface (Figure 3). A wireframe solid model has been generated so that allowance for the voids has been made when reporting tonnes and grade from the resource block model.
- The domains that have been constructed seem appropriate in relation to the information available and currently understood orogenic gold model of formation of the gold mineralisation.

The result of this estimation reflects the Competent Person’s view of the deposit based on the information available. The domains are consistent with historic reports and interpretation of the Big Four gold mineralisation and have considered all available information. The model grades also reflect appropriate smoothing of the raw composite grades and are thought to provide moderate confidence estimates of local recoverable ore grades upon mining the deposit. Reserves have not yet been defined, with further work required to demonstrate economic viability.

Figure 3: Above Image - Big Four RC drilling undertaken by Ardea in January 2020, looking southwest. Right Image - Big Four historic underground workings looking towards the north.

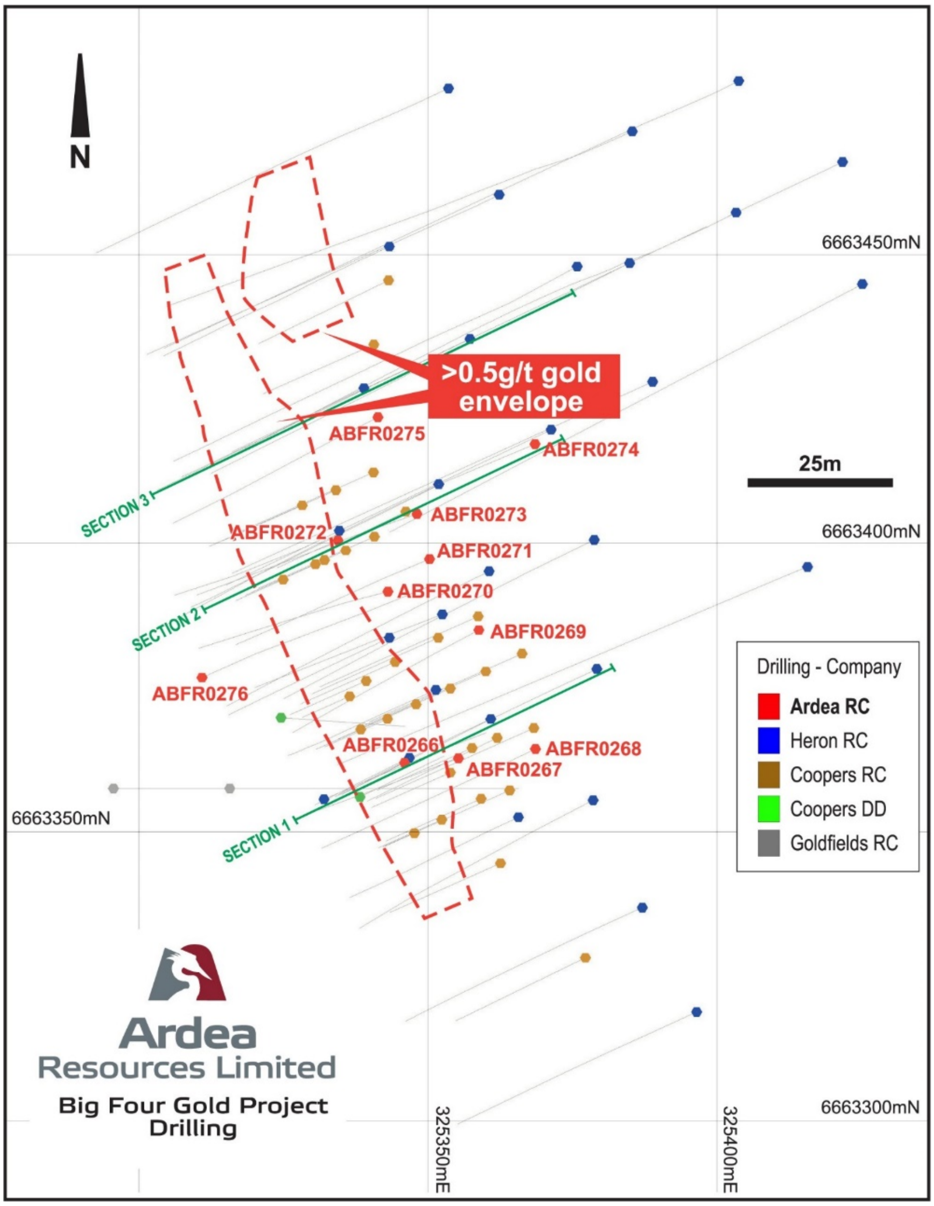


Figure 4: Big Four Gold drill hole location plan showing the resource outline above a 0.5 g/t gold cut-off. Drill hole collars are colour coded by company that completed the drilling, with hole id displayed for the Ardea RC drilling completed in January 2020. The green lines designate the representative cross sections shown in this report, from south to north, in Figures 4, 5 and 6 . Projection: GDA94 MGA Zone 51.

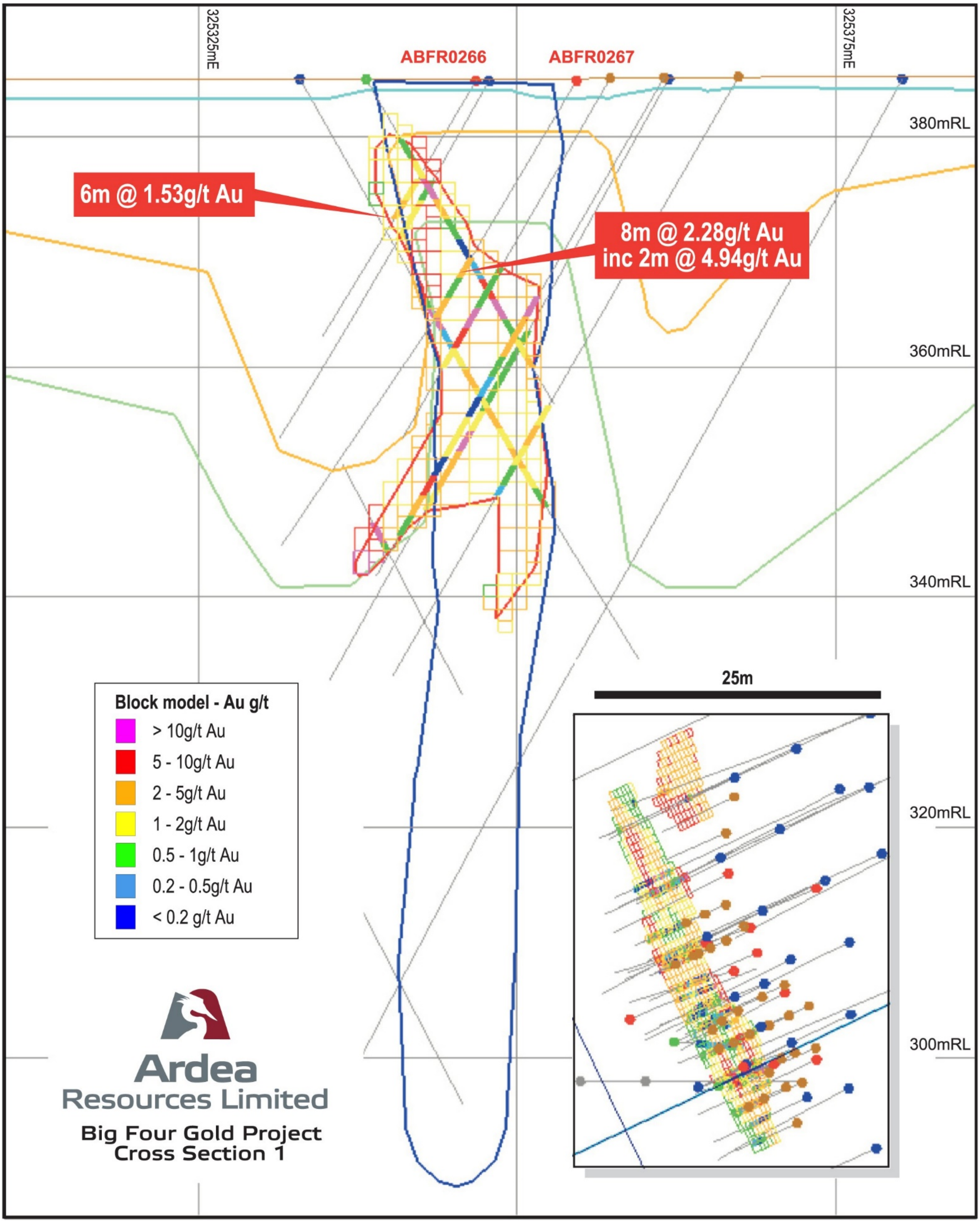


Figure 5: Cross section looking northwest, showing drillhole traces with collars colour coded by company (refer legend in plan view figure 4) and mineralised drillhole sample intervals colour coded by gold grades (g/t) as per the block legend; surface topography and geological profiles as follows; light blue = base of alluvium, orange = base of highly weathered protolith, green = base of moderately weathered protolith, inside dark blue outline = porphyry, outside dark blue outline = Siberia Komatiite, red = mineralisation envelope defined and used in the resource estimate and; block model gold grade (g/t) estimates colour coded as per the block legend. Ardea RC drilling assay results are highlighted in red (ASX release 26 February 2020).

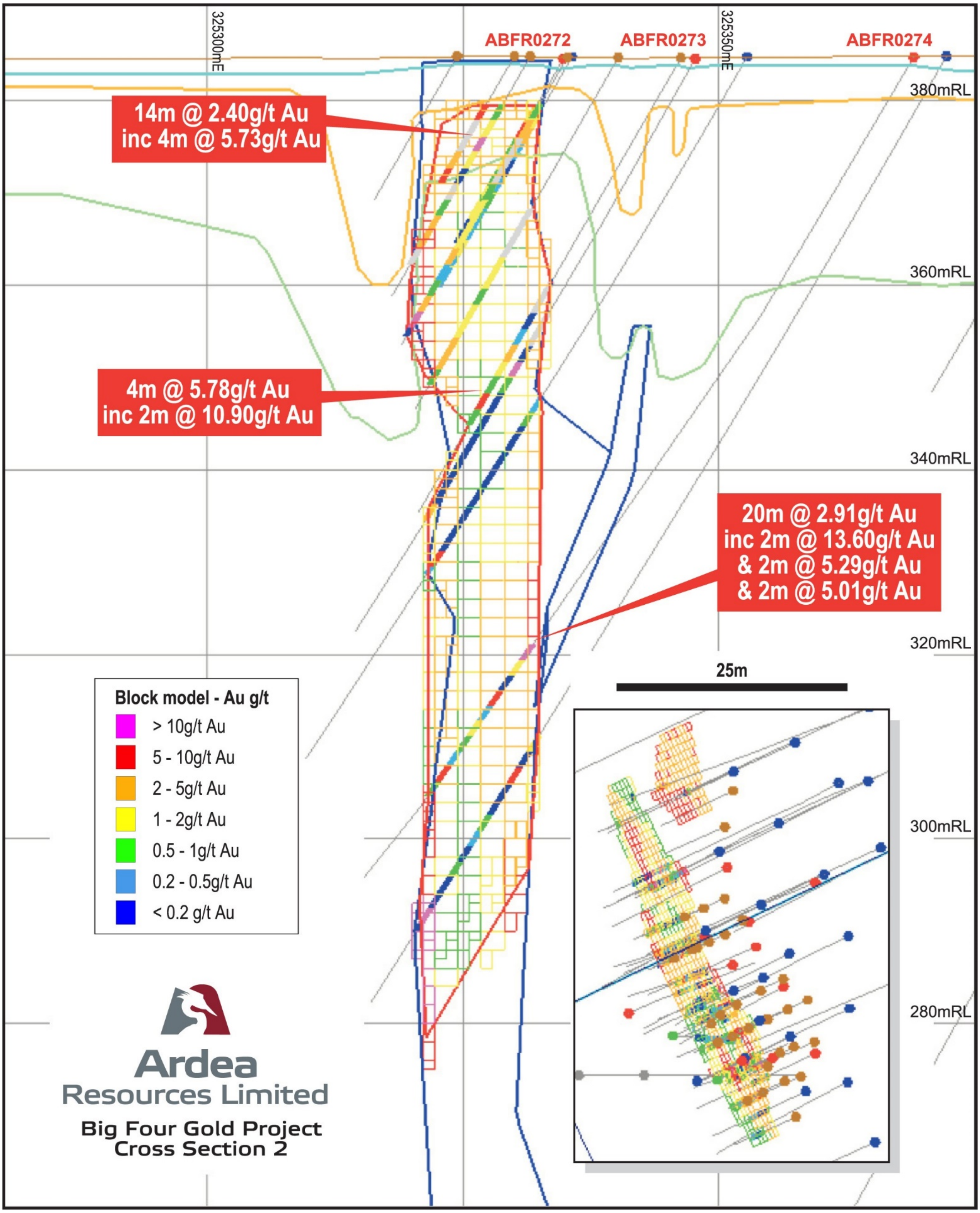


Figure 6: Cross section looking northwest, showing drillhole traces with collars colour coded by company (refer legend in plan view figure 4) and mineralised drillhole sample intervals colour coded by gold grades (g/t) as per the block legend; surface topography and geological profiles as follows; light blue = base of alluvium, orange = base of highly weathered protolith, green = base of moderately weathered protolith, inside dark blue outline = porphyry, outside dark blue outline = Siberia Komatiite, red = mineralisation envelope defined and used in the resource estimate and; block model gold grade (g/t) estimates colour coded as per the block legend. Ardea RC drilling assay results are highlighted in red (ASX release 26 February 2020).

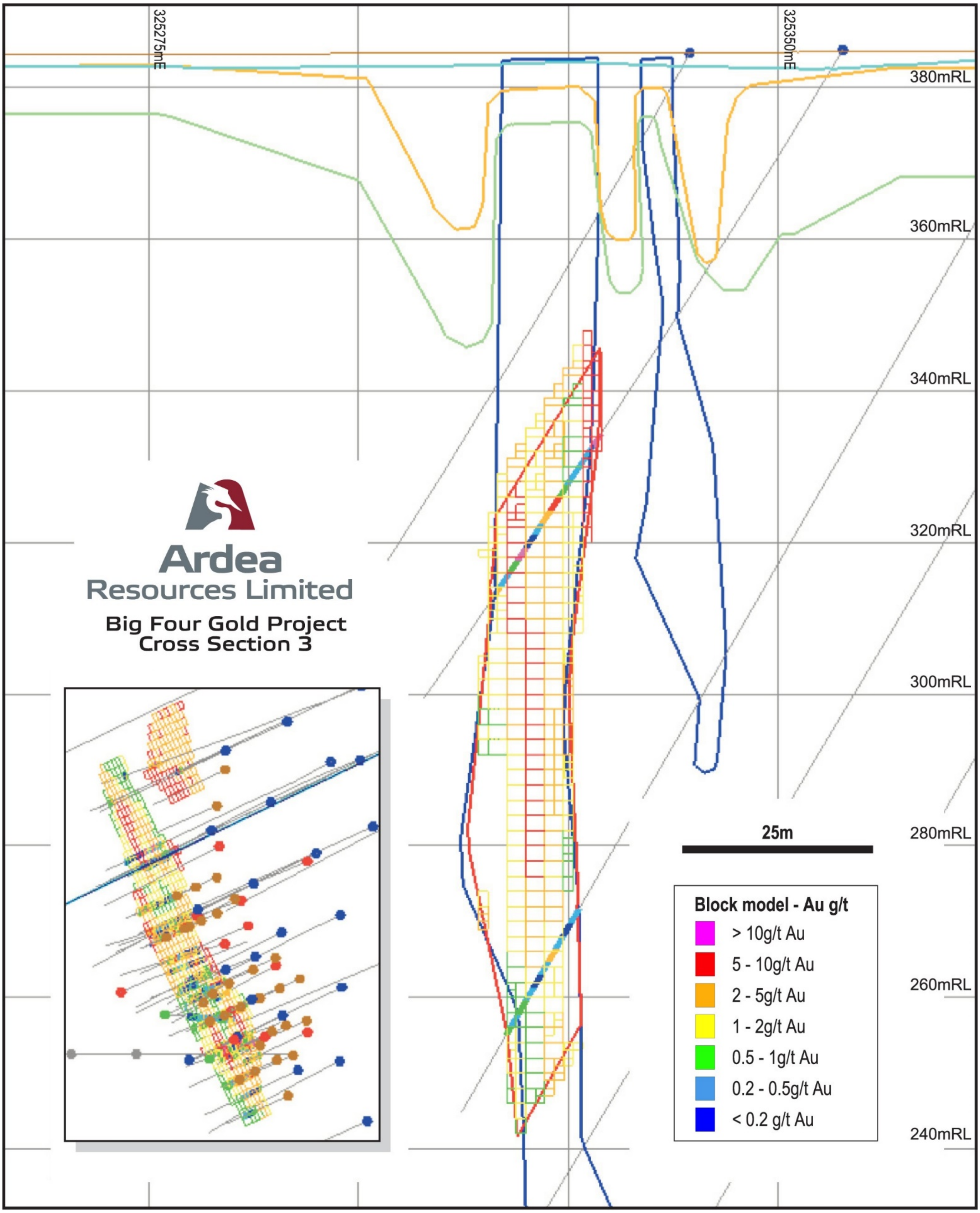


Figure 7: Cross section looking northwest, showing drillhole traces with collars colour coded by company (refer legend in plan view figure 4) and mineralised drillhole sample intervals colour coded by gold grades (g/t) as per the block legend; surface topography and geological profiles as follows; light blue = base of alluvium, orange = base of highly weathered protolith, green = base of moderately weathered protolith, inside dark blue outline = porphyry, outside dark blue outline = Siberia Komatiite, red = mineralisation envelope defined and used in the resource estimate and; block model gold grade (g/t) estimates colour coded as per the block legend.

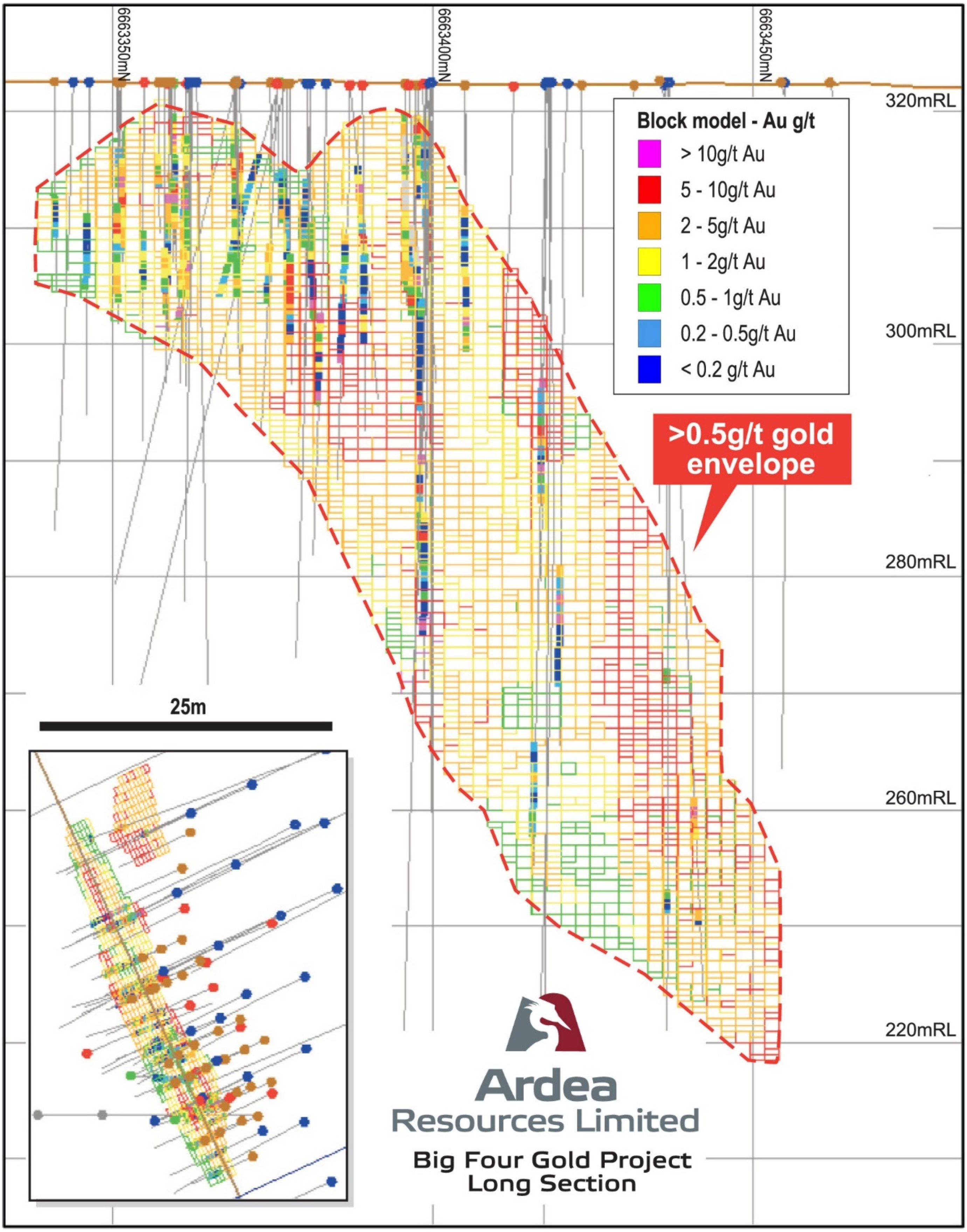


Figure 8: Long section, looking southwest, showing the resource outline on a 0.5 g/t Au cut-off, resource block model and drill holes colour coded by gold grade. Projection: GDA94 MGA Zone 51.

Sample Analysis and Estimation Methodology

Domain coding based on the geological modelling was assigned to the drillhole samples and the corresponding gold assay data was composited to uniform 2 m intervals, being the larger of the dominant sample intervals (1 m and 2 m), in preparation for statistical analysis and grade estimation. The coding assigned to the drill sample intervals is summarised in Table 3.

Descriptive and distribution statistics were compiled based on the 2 m composites of the drillhole assay data captured within the modelled mineralisation wireframe solids. Statistics of the data subdivided by the main explorers of the prospect were reviewed and found to be similar, indicating that the quality of the sampling and accuracy of analytical data are also similar with no evidence of bias in the magnitude or statistical distribution of grades in the data collected by any of the explorers.

Feature	BM Variable	Domain	Code
Mineralised Zone	min_zone	Unmineralised	0
		Main zone	10
		East zone	20
Lithology	lith_code	Komatiite	10
		Main Porphyry	20
		East Porphyry	30
		Transported	40
		Air	50
Weathering	weath_code	Fresh	100
		Moderate	200
		Strong	300
		Air	400

Table 3: Drill sample coding

Statistics of the data subdivided by the weathering domains in the example cross sections (Figures 5, 6 and 7) indicate that most of the mineralisation is in fresh rock. However, the mean grade of the moderate weathered mineralisation is highest at 3.06 g/t Au based on 42 composites, as compared with a mean grade of 2.21 g/t Au based on 376 composites for the mineralisation in fresh rock. This suggests that there is relatively minor supergene enrichment of gold grades in the moderately weathered material. There appears to be only low-grade mineralisation in strongly weathered rock for which a total of nine composites report a mean grade of 0.98 g/t Au. There is no evidence of high grade outlier data in any of the mineralised domains that require cutting prior to grade estimation.

Continuity Analysis

The continuity of the gold mineralisation was statistically assessed by undertaking variography based on the 2 m composites of the gold assay data captured within the modelled mineralisation domains. This assessment was undertaken as part of the resource estimation study and the resultant variogram model applied in ordinary kriging grade estimation.

The captured experimental variography confirms the northwest trend and near vertical dip of the mineralisation but does not indicate the presence of any significant anisotropy coinciding with the overall north westerly plunge of the mineralisation evident based on the drilling data. The variography was modelled with the major axis trending towards an azimuth of 155˚ and a vertical semi-major axis. The variance was modelled with a nugget effect (25%) and a single spherical structure (75%), and ranges of 50 m in both the major and semi-major axis directions, and 2 m in the minor axis direction.

Block Model Construction

A sub-blocked block model was constructed with the Y axis rotated to an azimuth of 335˚, aligned with the trend of the gold mineralisation. The X axis of the model was therefore orientated towards an azimuth of 065˚.

The model was constructed using parent block dimensions 2.5 m X by 5 m Y by 2 m Z, and variable size sub-blocking with minimum dimensions 1.25 m X by 2.5 m Y by 1 m Z to define accurate representation of geometry of the modelled geological boundaries and volumes of the domains.

All variables required to record domain coding based on the geological modelling, grade estimates and corresponding estimation statistics, and insitu density and resource classification assignments were incorporated into the block model. The block model domain coding was validated relative to the input wireframe surface and solid models used to construct the block model and confirmed to provide robust representation of the intended domain coding, wireframe geometries and volumes.

Grade Estimation

Grade estimation for gold has been undertaken using ordinary kriging.

Estimation was constrained within the two mineralisation domains using parent block discretisation of two steps in the rotated X direction, four steps in the rotated Y direction and two steps vertically for a total of 16 discretisation points. All estimates were undertaken for parent blocks with parent block estimates assigned to internal sub-blocks.

All estimates for both mineralisation domains were completed using an ellipsoidal sample search with 50 metre radii in the major and semi-major axis directions and a 10 metre radius in the minor axis direction.

The ellipsoid for the main mineralisation domain (min_zone = 10) was orientated in the same manner determined from the continuity analysis, with the major axis pointing horizontal towards an azimuth of 155˚, and the semi-major axis pointing vertical. An octant search was applied with boundary planes orientated perpendicular to the three search ellipsoid axes with a maximum of two composites used from any one octant, a maximum of four composites was used from any one drillhole, and a minimum of two and maximum of 16 composites used to complete a block estimate. Kriging was completed using the variogram model parameters described above under the section 'Continuity Analysis'. All blocks within the domain were estimated in a single estimation pass.

The second mineralisation domain (min_zone = 20) was divided into two estimation domains based on interpreted changes in the orientation of the mineralisation. The ellipsoid major axis was orientated plunging at -63˚ towards an azimuth of 323˚ in southern half of the domain, and at -48˚ towards an azimuth of 001˚ in the northern half. The semi-major axis for both sub-domains was orientated by rotating -70˚ (clockwise) from horizontal around the major axis. These same orientation parameters were also applied in the variogram models used for ordinary kriging. While no sectoring of the sample search ellipsoids was employed, a maximum of four composites from any one drillhole, and a minimum of two composites were used to complete a block estimate. Note that this mineralisation domain is represented by only seven composites from two drillhole intersections. All blocks within each sub-domain were estimated in a single estimation pass.

The block model grade estimates were validated both visually and statistically. The estimates informed by close spaced drilling (often on a 6 m X by 10 m Y grid) within 40 metre of surface are considered to provide high confidence representation of the spatial distribution and variability grades at the resolution of the parent block dimensions (2.5 m X by 5 m Y by 2 m Z). The local block estimates informed by broader spaced drilling at depth are of lower confidence but are still considered to provide a robust estimate of the global tonnes and grade of the deeper mineralisation using a relatively low cutoff grade (e.g. 0.5 g/t Au).

Insitu Density

No measurements of *in situ* density have been collected of the mineralised or waste rock materials at the Big Four Gold prospect. However, suitable bulk density values have been assigned to the resource model based on published bulk density data for similar rocks at other locations and common sense relationships between decreasing density and increasing weathering of similar rocks in the Eastern Goldfields of Western Australia.

Fresh komatiite typically has an insitu density of 2.8 t/m^3 while fresh intermediate porphyry (e.g. hornblende diorite) often has a density of 2.9 t/m^3. Ardea has assigned a density of 2.8 t/m^3 to both the fresh porphyry and komatiite domains in the resource model.

The moderately weathered block model domains for both these rock types were assigned a density of 2.4 t/m^3, while the strongly weathered domains were assigned a density 2.0 t/m^3. All blocks representing the modelled transported material near surface were assigned a density of 1.8 t/m^3.

There is no differentiation in the density assignments between the mineralised and unmineralised domains, although differences may become evident if density measurements of all the material types present at Big Four Gold are collected in the future.

Cut-off Grade

Locally, elevated gold grades above 0.01 g/t Au based on the Ardea Big Four Gold dataset most commonly occur within the porphyry (rarely outside within the Siberia Komatiite) except proximal to porphyry margins.

A grade of 0.5 g/t Au was selected as an appropriate nominal cutoff for resource grade envelope definition, defining the lower limit of gold grades typically intersected along the margins of the porphyry, and is also considered suitable for Mineral Resource reporting according to JORC Code (2012) Guidelines with regards to reasonable expectations of economic development relative to ranges in future gold prices and proximity of the mineralisation to surface. Allowance for mining dilution has also been incorporated into the modelled mineralisation envelope, wherein, 1 m up or down hole dilution has been included within the modelled mineralisation envelope where edge samples report grades > 1 g/t Au in order to account for external mining dilution should a small scale mining operation be considered based on the Mineral Resource presented in this report.

Mining and Metallurgical Methods and Parameters and Other Modifying Factors

Big Four Gold is a conventional Eastern Goldfields orogenic gold deposit suited to an open pit excavator/dump truck operation. Tenure is a granted Mining Lease with Native Title agreement in place (M24/778).

It is envisaged that mine grade control would be undertaken using RC drilling collared on a 5 m X by 10 m Y spacing declined at -60˚ towards an azimuth of 065˚. This would be supported by existing exploration drilling of near surface weathered material. However, grade control practices may evolve if selective mining of localised high grade mineralisation within fresh rock at depth (e.g. along sheared margins of the porphyry or within stockwork or shear zones within the porphyry) is considered.

It appears likely that mining blocks based on a 0.5 g/t Au cutoff grade in moderately weathered material near surface would range from 5 to 10 metres wide. However, potential selective mining of primary mineralisation deeper in the deposit may necessitate mining of higher grade material over 2.5 m widths, in particular along the east and west sheared contacts of the porphyry and komatiite.

Based on exposures in the old workings and drill penetration rates, drill and blast will be required in the porphyry.

Processing the Big Four material at a third party-owned plant is the only current option. Preliminary discussions have been held, but further work is required to determine a viable processing option. The mineralisation may be amenable to on-site static leaching, but the requisite metallurgical testing has not yet been completed.

No dedicated geotechnical data has been collected from the minimal surface exposure or dedicated diamond drilling yet completed by Ardea. There have been no geotechnical or metallurgical studies completed on drill samples from the Big Four Gold project area. However, given the existing and historic gold operations in the area, it has been assumed that the mineralisation would be amenable to conventional open pit mining and mineral processing as per other orogenic porphyry hosted gold deposits of the Eastern Goldfields of Western Australia.

Ardea has set aside samples from the January 2020 Ardea RC drilling and is designing some bottle roll assays as an initial metallurgical assessment.

A recently proposed mining strategy is to commence with a starter pit down to 20 metres depth to quantify geotechnical parameters and thus obviate the need for geotechnical drilling ahead of mining commencing. However, it is envisaged that a small diamond drilling programme (probably two holes) enabling the collection of bulk density and geotechnical data would enable upgrading of the currently Inferred Resource to a combination of Measured, Indicated and Inferred Resources.

Project Potential and Work Planned

Scope exists for expansion of the Big Four Gold resource. The resource is open down plunge and there is potential for further gold mineralisation to be discovered under cover in proximity to the resource, possibly from a decline at the pit base.

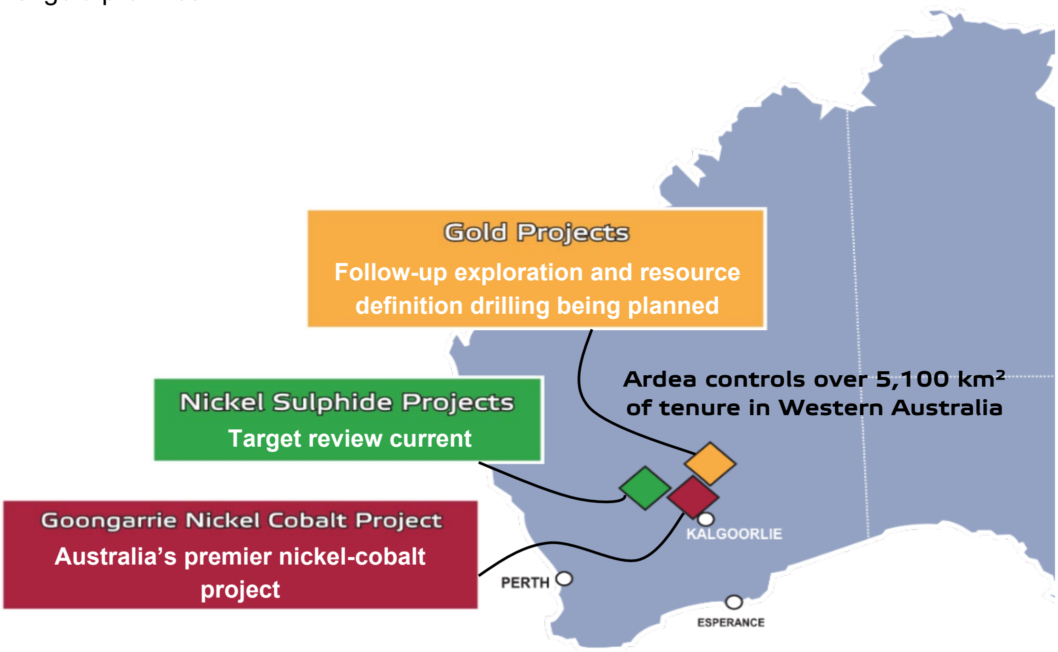
Options to monetise the Big Four Gold resource will be pursued and mining and toll treatment studies have commenced, along with engagement with third parties wanting to partner in project development.

This announcement is authorised for release by the Board of Ardea Resources Limited.

About Ardea Resources

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

- Development of the Goongarrie Nickel Cobalt Project, which is part of the Kalgoorlie Nickel Project, a globally significant series of nickel-cobalt deposits which host the largest nickel-cobalt resource in the developed world, coincidentally located as a cover sequence overlying fertile orogenic gold targets; and
- Advanced-stage exploration at WA nickel sulphide and gold targets within the Eastern Goldfields world-class nickel-gold province.



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

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CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

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

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

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

Competent Person Statement

The information in this report that relates to Exploration Targets, Exploration Results, is based on information compiled by Dr Matthew Painter, a Competent Person who is a Member of the Australian Institute of Geoscientists. Dr Painter is a full-time employee of Ardea Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Painter consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources or Ore Reserves is based on information compiled by James Ridley, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Ridley is a full-time employee of Ardea Resources Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Ridley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 1 – 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	• *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.*	• HQ and NQ size core from two percussion-diamond drillholes completed by Coopers Resources in 1984 were sampled over variable length intervals based on geology and whole core samples submitted for analysis by fire assay for Au at Analabs in Kalgoorlie. Chips from the percussion precollars were collected over 1m downhole intervals and riffle split to generate 2kg subsamples to despatch for laboratory analysis. These splits were combined to produce 2 or 3m composite samples for the longer percussion precollar in the second hole. • Chip samples from the RC drilling completed by Coopers in 1987, 1988 and 1989, Goldfields Exploration in 1999 and Heron Resources in 2012 were collected over 1m downhole intervals via a cyclone into large plastic bags. • Two sub-sample splits were taken for each 1m interval of the Coopers RC drilling in 1987. One was retained while the other was combined with the next 1m interval to form a 2m composite sample. Sub-samples were submitted for analysis at RDG Laboratories in Kalgoorlie where the 2m comps were analysed for Au by aqua regia digest with AAS finish. The 1m splits of all samples within the mineralised intervals were analysed for gold by fire assay. No 2m compositing in the field was undertaken on samples from near the water table or that were too wet to split. In this case, the total sample for each 1m was despatched to the lab for drying prior to splitting. • The 1m samples from the Coopers RC drilling completed in 1988 and 1989 were riffle split to produce 2 kg subsamples which were despatched to Analabs in Kalgoorlie for fire assay fusion and AAS finish using a 50g charge. • All dry samples from the Goldfields Exploration RC drilling were riffle split to generate 4kg subsamples, while all wet samples were scoop sampled. The subsamples were despatched to ALS in Kalgoorlie for Au analysis by fire assay on 50g charges. • Sub-sampling of the 1m samples from the Heron RC drilling was predominantly by cone splitting over mineralised intervals, and by cone splitting, scoop or spear sampling in unmineralized material. Sub-samples were submitted to UltraTrace in Perth for fire assay fusion and ICP-AES finish on 40g sample charges. • Samples from the Ardea RC drilling were collected over 1m intervals via a cyclone into large plastic bags. Mostly 2m composite sub-samples for laboratory analysis were collected via a cone splitter mounted beneath the cyclone. Sample condition, sample recovery and sample size were recorded for samples collected by ARL. • Assay of Ardea samples utilised standard laboratory techniques with fire assay fusion followed by ICP-AES undertaken on 40 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).*	• Coopers drilled 2 percussion-diamond holes at Big Four Gold in 1984 to further test mineralisation intersected in earlier RAB drilling also completed in 1984. The initial hole was collared approximately 40m south of the historical underground workings exposed at surface and inclined at -60 degrees towards an azimuth of 064. The second hole was collared approximately 20m NW of the first hole (approx. 20m south of the historical workings) and inclined -60 degrees towards an azimuth of 094. The first hole was collared with percussion drilling to a depth of 3m followed by unoriented HQ single tube coring to 21.5m down hole and unoriented single tube NQ coring to the end of hole at 32.5m. Open hole percussion drilling was used to complete a 33.45m down hole precollar for the second hole to the water table, followed by unoriented single tube NQ coring to the end of hole at 43m. • All the remaining drilling undertaken to collect samples for use in resource estimation has been reverse circulation drilling. The 35 RC holes completed by Coopers in the late 1980s were presumably drilled using a traditional downhole hammer bit with a cross-over assembly for sample return, while the 2 Goldfields holes, 31 Heron holes and 11 Ardea RC holes have been drilled using face sampling hammer bits. • The initial 4 Coopers RC holes were drilled inclined at -60 degrees towards an azimuth 244 while the remaining 31 Coopers holes were inclined at -60 but oriented towards an azimuth of 246. • All the Heron holes and all except one of the Ardea RC holes were collared inclined at -60 degrees towards an azimuth of 245. The exception Ardea hole, ABFR0276 was collared inclined at -60 towards an azimuth of 066 as the preferred collar location was inaccessible due to historic mine workings. • Ardea twin holes were generally collared within 3 m of the collar position of the original hole to be twinned.

Criteria	JORC Code explanation	Commentary
		• Sample condition, sample recovery and sample size were recorded for all the Ardea drill 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.*	• The core from the two percussion-diamond holes drilled by Coopers was reportedly often badly broken coinciding with poor core recovery. Core recoveries expressed as percentages of variable length intervals ranging from 0.3m to 3.0m long was only recorded for the first hole. An average recovery of 84% was evidently achieved for 85% of the drill hole metreage for which core recovery was logged. • No sample recovery information is available for the Coopers, Goldfields or Heron RC drilling. • RC chip sample recovery in the Ardea RC holes was recorded by visual estimation of the reject sample, expressed as a percentage recovery. Overall estimated recovery was high. • RC Chip sample condition was recorded by Ardea using a three code system, D=Dry, M=Moist, W=Wet. Less than 2% of the samples were recorded as being moist or wet with most recorded approaching the bottom of a single drillhole. • Measures taken to ensure maximum RC sample recoveries in the Ardea drillholes 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.
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.*	• All percussion precollar samples and core from the two Coopers percussion-diamond holes for total of 76m of drilling were visually logged for lithology, weathering, oxidation, structure, alteration, veining and core integrity in a qualitative manner to a level suitable to support resource estimation. Core recovery was only logged for 25.2m (or 84%) of 29.5m of core drilling in one of the holes due to badly broken core preventing accurate logging in the second hole. • All chip samples from the 35 Coopers RC holes for a total of 1,314m of drilling were visually logged on a qualitative basis for rock type, weathering, and shearing, with supporting comments, and quantitatively logged for quartz veining% and total sulphides% all to a level suitable to support mineral resource estimation. • All chip samples from the 31 Heron RC holes for a total of 3.500m of drilling were qualitatively logged for lithology, oxidation, hardness, colour, grain size, texture and structure all to a level suitable to support mineral resource estimation. Representative chips for each 1 metre interval were also collected and stored in chip-trays for future reference. The drilling and sampling was supervised by either a fulltime Heron geologist or contract geologist. • The Ardea drilling was undertaken to validate historic drilling results and gap infill. The level of logging detail supports resource estimation with visual geological logging completed for all RC drilling on 1 metre intervals. Logging was performed at the time of drilling, and planned drill hole target lengths adjusted by the geologist during drilling. A fulltime Ardea geologist also oversaw all sampling and drilling practices. Representative chips were also collected for every 1 metre interval and stored in chip-trays for future reference. • In total, 738 m were drilled during the Ardea program, with the RC drill chips generated logged in detail.
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.*	• The 1m chip samples from the Coopers percussion-diamond drillholes were riffle split to generate 2 kg sub-samples for each 1m sample interval which were often combined with the splits from the subsequent 1 or 2 sample intervals to generate a 2m or 3m composite sample for laboratory analysis. Whole HQ and NQ core from the diamond tails was sampled over variable length intervals based on geology. • Two sub-sample splits (of undocumented size) were taken for each 1m interval of the Coopers RC drilling in 1987. One was retained while the other was combined with the next 1m interval to form a 2m composite sample for laboratory analysis by AR-AAS method. The retained 1m splits of all samples within mineralised intervals were subsequently submitted for laboratory analysis by fire assay. No 2m compositing in the field was undertaken on samples from near the water table or that were too wet to split. In this case, the total sample for each 1m was despatched to the lab for drying prior to splitting. • The 1m samples from the Coopers RC drilling completed in 1988 and 1989 were riffle split to produce 2 kg subsamples for laboratory analysis. • There is no documentation of Coopers collecting any field duplicate quality control samples for external monitoring of field sampling errors. • All dry samples from the 2 Goldfields Exploration RC drilling were riffle split to generate 4kg subsamples, while all wet samples were scoop sampled for laboratory analysis. • Sub-sampling of the 1m samples from the Heron RC drilling was predominantly by cone splitting over mineralised intervals, and by cone splitting, scoop or spear sampling in unmineralised material. • 2 metre composite sub-samples collected from Ardea RC drilling were recovered using a rig mounted cone splitter into a calico sample bag. Sample target weight was between 3 and 5kg. • A standard, blank or duplicate sample was inserted into both the Heron and Ardea exploration sample stream every 10 samples on a rotating basis . Standards were quantified industry standards. Every 30th sample a duplicate sample was taken using

Criteria	JORC Code explanation	Commentary
		the same sub sampling technique as the original sub sample. • Assays of the Heron field duplicate RC sample splits often show significant variance but no systematic bias. There is much lower variance in the assay results for the Ardea field duplicate sample splits. • Sample sizes from all the drilling programmes are considered appropriate for the nature of mineralisation.

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.*
		• The core and chip subsamples from the Coopers percussion-diamond drilling in 1984 were submitted for gold fire assay analysis at Analabs in Kalgoorlie (Method 309).
		• The riffle split subsamples from the 4 RC holes drilled by Coopers in 1987 were submitted for analysis at RDG Laboratories in Kalgoorlie where the 2m composites were analysed for gold by aqua regia digest with AAS finish (Method 329). The 1m splits of all samples within the mineralised intervals were subsequently analysed by fire assay (Method 309).
		• The riffle split subsamples from the Coopers 1988 and 1989 RC drilling were despatched to Analabs in Kalgoorlie for gold analysis by fire assay fusion of 50g charges and AAS finish (Method 313).
		• The subsamples from the Goldfields RC drilling were despatched to ALS in Kalgoorlie for analysis by fire assay of 50g charges.
		• No details are available whether Coopers or Goldfields inserted QAQC samples in the exploration sample stream for external monitoring of field sampling errors or laboratory performance.
		• No details of the sample preparation, analytical and quality control procedures used by Analabs, RDG Laboratories and ALS in Kalgoorlie are available in relation to the samples from the Coopers and Goldfields RC and diamond drilling at Big Four Gold. However, all three labs were / are reputable commercial labs with well-established industry standard sample preparation, analytical and quality control procedures in place.
		• All sub-samples from the Heron RC drilling were submitted to UltraTrace Laboratories in Perth for sample preparation and assay analysis.
		  • The samples were sorted, dried and weighed followed by crushing and splitting with a riffle splitter when necessary to obtain a sub-fraction typically in excess of 2kg which has then been pulverised to 80% passing 75 microns.
		  • A 40g charge of each sample pulp was fired giving total separation of Gold, Platinum and Palladium in the sample charge and Au, Pd, Pt grades were determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry.
		  • UltraTrace routinely inserted analytical blanks, standards and pulp duplicates into client sample batches for internal laboratory QAQC performance monitoring.
		  • Heron also inserted QAQC samples into the sample stream at a 1 in 10 frequency, alternating between blanks (industrial sands), standard reference materials and duplicate field RC sample splits.
		  • All the UltraTrace and Heron QAQC data has been statistically assessed with satisfactory levels of analytical precision and accuracy determined for the majority of the QAQC samples.
		• All sub-samples from the Ardea RC drilling were submitted to Bureau Veritas (BV) Laboratories in Kalgoorlie and transported to BV Perth for sample preparation and geochemical analysis.
		  • The samples were sorted, wet weighed, dried then weighed again. Primary preparation was by crushing and splitting with a riffle splitter where necessary to obtain a sub-fraction which has then been pulverised in a vibrating pulveriser. All coarse residues have been retained.
		  • The samples were analysed by firing a 40 g (approx) sample charge. Au, Pd, Pt have been determined by Inductively Coupled Plasma (ICP) Optical Emission Spectrometry.
		  • The samples were also cast using a 66:34 flux with 4% lithium nitrate added to form a glass bead, and Al, As, Ba, Ca, Cl, Co, Cr, Cu, Fe, Ga, K, Mg, Mn, Na, Ni, P, Pb, S, Sc, Si, Sr, Ti, V, Zn, Zr determined by X-Ray Fluorescence (XRF) Spectrometry.
		  • The same glass bead was to determine Ag_LA, Be_LA, Bi_LA, Cd_LA, Ce_LA, Co_LA, Cs_LA, Dy_LA, Er_LA, Eu_LA, Gd_LA, Ge_LA, Hf_LA, Ho_LA, In_LA, La_LA, Lu_LA, Mo_LA, Nb_LA, Nd_LA, Ni_LA, Pr_LA, Rb_LA, Re_LA, Sb_LA, Sc_LA, Se_LA, Sm_LA, Sn_LA, Ta_LA, Tb_LA, Te_LA, Th_LA, Tl_LA, Tm_LA, U_LA, V_LA, W_LA, Y_LA, Yb_LA, by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LAICP-MS).
		  • Loss on Ignition 1000 degrees Celsius was also determined using a robotic TGA system.
		  • BV routinely inserts analytical blanks, standards and duplicates into 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), standard reference materials and duplicate field RC sample splits.
		  • All the BV and Ardea QAQC data has been statistically assessed with satisfactory levels of analytical precision and accuracy determined for the majority of the QAQC samples.

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.*	• One of the main reasons for the recent Ardea RC drilling was to verify the results of the previous drilling completed by Coopers and Heron. • There is excellent correlation in the contact locations between the porphyry and surrounding komatiite between nearby drillholes from all the drilling programmes completed by Coopers, Heron and Ardea. While twin hole (or nearby hole) mineralised drill intersection lengths are typically also similar, the bulk intersection grades can vary significantly. However, there appears to be no systematic bias in the intersection grades or the individual sample grades that form the basis of the calculated mineralised intersection grades. • The variation in sample and intersection grades appears to result from variation in the styles of mineralisation indicated by the diamond drilling completed by Coopers in 1984. The annual report submitted to DMIRS by Coopers in 1984 indicates that mineralisation was intersected in both steeply dipping shear structures and more localised shallower dipping quartz veins. Ardea's modelling of voids from historical underground mining appears to confirm these observations. • Following detailed geological and statistical analysis of the assay data from closely spaced drillholes, Ardea considers the variation in sample and overall intersection grades most likely results from a combination of variations in the style of mineralisation and the presence of localised coarse gold.
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.*	• There is no documentation of the methods used to survey the collar locations of the historical Coopers RC and percussion-diamond drillholes. However, annual reports submitted by Coopers to DMIRS from 1984 to 1989 indicate progressive drafting of drillhole collar locations on a single drillhole and historical mining feature location plan drafted in relation to AMG 84 Zone 51 projection. Importantly, the local grid established by Coopers in 1988 which forms the basis of the documented locations of most of the Coopers drilling in 1988 and 1989 is drafted on the same plan updated and presented in the 1988 and 1989 Coopers annual reports. • The Coopers local grid origin, 500mE and 1000mN was established at the collar of a Coopers RAB hole, R1 drilled in 1984. Grid east was defined by a line from R1 to an early Coopers RC hole BF24. Grid north was therefore oriented towards 334 magnetic. • Ardea has digitised the locations all the historical Coopers drillhole collars plotted on the latest (1989) Coopers drillhole and feature location plan with reference to AMG grid lines and undertaken detailed validation of all the preserved historical surface features within the Big Four Gold prospect area in order to confirm the location of Coopers drillhole collars in projection MGA91 Zone 51. While no historical drillhole collars were identified in the field due to site rehabilitation activities undertaken by Heron, the locations of preserved shafts, dumps and concrete foundations from historical underground mining and infrastructure were surveyed by a licensed contractor, providing accurate locations of the same features plotted on the historical Coopers drillhole location and feature plans. This has enabled indirect validation of the location of the historical drillhole collar locations relative to the AMG reference coordination on the historical plans. An offset of the MGA transformed locations of the digitised historical mining features from their recently surveyed locations was identified and corrected by transforming the location of these features and the Coopers RC drillhole digitised from the Coopers 1989 drillhole plan 4.7m towards an azimuth of 200 in order to correctly locate the Coopers drillholes in relation to the drillholes subsequently drilled by Goldfields, Heron and Ardea. There is excellent correlation of the geology intersected in adjusted MGA locations of the Coopers holes and nearby Heron and Ardea drillholes indicating robust relative accuracy of the RC and diamond drillholes used for resource estimation. • The collar locations of most of the Heron drillholes and all the Ardea holes have been accurately surveyed by licensed surveyors using RTK DGPS equipment. The coordinates are stored in the exploration database referenced to the MGA Zone 51 Datum GDA94. • None of the Coopers drillholes were downhole surveyed, however, the longest hole is 60m (inclined) and there is no evidence of significant downhole deviation in similar length holes drilled by Heron or Ardea that have been surveyed using downhole gyro orientation instrumentation. • Most of the Heron RC holes have been downhole surveyed at 5m intervals using a downhole gyo orientation tool. The remaining holes and deeper unstable holes have been surveyed at 20m or 30m intervals with an Eastman camera. • The Ardea RC drillholes have all been downhole surveyed at approximately 40m downhole intervals using a gyro tool. • The grid system for resource modelling 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 • The surface topography over the project area is based on high resolution aerial photography with photogrammetry processing generation accurate contouring of the surface topography at 0.3m intervals. The modelled topographic surface is in close agreement with the surveyed drillhole collar elevations.

Criteria	JORC Code explanation	Commentary
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.*	• The drilling is mostly inclined at -60 degrees towards an azimuth of approximately 245, with the drillhole collar spacing ranging from 5m LE (local east) by 10m LN near surface over the near surface mineralisation to the south, maintaining similar spacing of 5m LE by 10m LN as the mineralisation plunges north, and increases to a 20m LE by 20m LN spacing testing deeper mineralisation to the north. • Locally closer spaced 'twin' holes provide insight into the short range variability of gold grades. • Most of the gold assay data is for either 1m or 2m downhole sample intervals. • The drillhole and resulting sample spacing is considered sufficient for the definition of Mineral Resources.
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.*	• Most of the drilling at the Big Four Gold prospect area has been inclined at -60 degrees, with the vast majority towards an azimuth ranging from 244 to 246 oriented approximately normal to the trend of the porphyry dyke that hosts the gold mineralisation. • Only 6 of the 81 drillholes used to inform the resource estimate have been drilled inclined to the NE (3x towards an azimuth of 065) and 3x towards an azimuth of 090. • Gold mineralisation is subvertical to steep dipping to the NE and striking approximately 335˚-340˚, associated with a subvertical, late-stage intermediate porphyry intrusive. Intercepts are as normal to the orientation of mineralisation as can be reliably defined using RC drilling which provides the majority of the sampling data collected to date.
Sample security	• *The measures taken to ensure sample security.*	• The measures taken to ensure sample security during the Coopers and Goldfields drilling programmes are unknown. However, comparison of the data from these programmes and subsequent drilling completed by Heron and Ardea conclude there is no reason to believe that the samples from the historical drilling were altered from their original state upon retrieval from drilling. • All sampling undertaken during the Heron and Ardea drilling programmes was supervised by a full time Heron or Ardea geologist or contract geologist. Cone split samples were typically handled by driller offsiders while spear of scoop sampling was undertaken by Heron Field Technicians. • All samples from the Heron and Ardea drilling programmes were accounted for by Heron or Ardea employees or geological contractors during drilling. All sub-samples were collected in calico bags and bulked in large plastic bags closed with cable ties. • Samples were transported to the Heron / Ardea office in Kalgoorlie where sample submission and transport forms were prepared. 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.*	• No audit or review beyond normal operating procedures has yet been undertaken on the Big Four Gold dataset. Ardea has periodically conducted internal reviews of sampling techniques relating to resultant exploration datasets, and larger scale reviews capturing the data from multiple drilling programs.
		• 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 BV Laboratory was visited by Ardea staff in 2017, 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 Big Four Gold drilling was undertaken is M24/778-I. ARL, through its subsidiary companies, is the sole holder of the tenement. • Heritage surveys were carried out prior to application for the Program of Works to undertake the program. The tenement is part of a large group of tenements that is the subject of an agreement between ARL and the Maduwongga native title applicants.

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Big Four Gold prospect has been subject to limited historic exploration, mostly as drilling.
		  • Limited historic mining around the 1920s to 1930s recovered 571.5t of ore for 10.53kg gold (~339oz gold), at an average grade of 18.4g/t Au. This gold occurrence cropped out at surface so was discovered by prospectors.
		  • Historic drilling of the Big Four Gold prospect has been undertaken by several companies between 1984 and present. In total, there have been 65 RC drill holes (prior to this program), and 2 diamond drill holes. Most drilling has been less than 100 m depth.
		  • Coopers Exploration (1980s), Heron Resources (late-2000s) and now Ardea are the main companies to have drilled at Big Four.

Geology	• *Deposit type, geological setting and style of mineralisation.*	• Mineralisation at Big Four Gold is orogenic gold mineralisation. It is hosted within and around a late-stage, intermediate porphyritic hornblende-plagioclase intrusive that has intruded into the Siberia Komatiite. Pyritic, silicic, albitic, and chloritic alteration are directly associated with gold mineralisation in both shear and breccia hosts. Contrasting rheological characteristics between the porphyry and the rocks of the Siberia Komatiite (including tremolite-chlorite schist) likely result in fracturing contemporaneous with deformation and regional gold mineralising events.
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 location and results of all the drilling relating to the current resource estimate for Big Four Gold have previously been reported to the public in ASX announcements.
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 Big Four Gold, namely gold and associated tracefinder elements arsenic, antimony, and sulphur, when assayed for have been previously reported in previous ASX announcements. Other elements were assayed by Ardea but have not been reported here. They are of use and of interest from a scientific and metallurgical perspective but are not considered material and their exclusion does not detract from the understanding of this report.
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 1m or 2m down hole intervals. • All significant mineralisation intercepts in the Big Four Gold dataset have been previously reported to the ASX.
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*	• All drill holes in this program were angled. • Gold mineralisation is subvertical and striking approximately 335˚-340˚, associated with a subvertical to steep NE dipping, late-stage intermediate porphyry intrusive. Intercepts are as normal to the orientation of mineralisation as can be reliably defined using RC drilling. However, the detailed orientation of vein sets and breccia zones within and adjacent to the intrusive is not currently known.

Criteria	JORC Code explanation	Commentary
	statement to this effect (e.g. 'down hole length, true width not known').	
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.*	• Appropriate sections and maps are shown in the body of the document.
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 reported 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 results; bulk samples size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• No other data are, at this stage, known to be either beneficial or deleterious to recovery of the metals reported.
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 required at Big Four Gold, in particular diamond drilling to collect in situ density data for the mineralised and waste rock materials throughout the weathering profile, provide material for metallurgical test work and collect geotechnical data to inform mine planning.

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.*	• Ardea uses DataShed software as a front end to a MS SQL database to manage and store data from their exploration activities. • All the data from the historical Coopers drilling has been captured from historical reports by Ardea. The hand written data has been manually entered into Excel spreadsheets by an Ardea Database Assistant or external consultant and subsequently reviewed and validated by Ardea's Database Manager. Recoding of several geological logging attributes was undertaken to facilitate merging of the data into the Ardea database structure. • The Ardea Database Manager has undertaken detailed cross reference validation of the historical data captured in relation to robust routine database protocols, including updating of adjusted drillhole collar locations based on Ardea's validation of the drillhole location data. The resulting validated data has been imported into the Ardea database (DataShed). • All the Heron drill logging data was captured in Excel spreadsheets and imported into the Heron database at the time using predefine import templates (also MS SQL database with DataShed front end). Digital assay data reported by UltraTrace was also imported into the database using predefined importation templates. Ardea has undertaken a detailed review of the Heron data and made minor corrections with reference to the source logging spreadsheets. • All the Ardea drillhole logging data collected in the field was captured using Log Chief, a data capture application linked to DataShed. All logging data has been reviewed by the Ardea Database Manager who has validated the data relative database control library tables. All assay data has been imported into the database using predefined templates and analysis of all data for Ardea QAQC control samples submitted for analysis undertaken.
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.*	• Both Competent Persons (for reporting for reporting 'Sampling Techniques and Data' and 'Exploration Results' (1) and 'Estimation and Reporting of Mineral Resources' (2) have visited the project site on multiple occasions. • The exposed underground workings provide evidence of sub-vertical shearing along the porphyry- komatiite contact. • The geology exposed in the surface exposure of the underground workings supports the underlying geological interpretation.
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.*	• The geological interpretation developed by Ardea to constrain the resource estimate is based on a combination of geological logging and nominal cutoff grade criteria. • The contact between the host intermediate porphyry unit and surrounding komatiite has been interpreted exclusively based on geological logging. Visual differences between the porphyry and komatiite are distinct. There is little to no doubt regarding the spatial extents and geometry of the porphyry where intersected with drilling. The porphyry is subvertical to steep east dipping and trends towards an azimuth of 335. It is consistently approximately 13m wide and has been defined by RC drilling over a strike length of 185m and from surface to vertical depth of 190m. The porphyry bifurcates towards the north end of the drilling, evidently cut by a subparallel or slightly more NW trending shear structure. The spatial extents of the porphyry are represented by two wireframe solids modelled based on a 3-D cross sectional geological interpretation. • A thin veneer of transported surface alluvial material (approx. 2m thick) is present over most of the prospect area which has also been interpreted based on geological logging. This has been modelled with a wireframe surface based on interpreted cross section profiles. • The mineralisation is almost entirely contained within and along the sheared margins of the porphyry. The presence and continuity of the mineralisation appears to be controlled by a combination of steeply dipping shearing sub-parallel to the porphyry margins (both within and along the margins) and more shallow dipping quartz veining within the porphyry. Free gold within the system results in high local variability of gold grades along shear structures and within vein sets. The drilling indicates that most of the vein mineralisation is shallow to moderate west dipping. • A mineralisation envelope to constrain resource grade estimation has been interpreted based on a nominal 0.5g/t Au cutoff grade. Internal sub-grade drill intercepts have been included within the envelope to capture the overall mineralised system where the local geometry and controls of the gold mineralisation are uncertain. The majority of the mineralisation occurs either along the subvertical sheared margins of the porphyry in contact with komatiite and along subvertical shears and more shallow dipping vein sets within the porphyry. Allowance for mining dilution has also been incorporated into the modelled mineralisation envelope, wherein, 1m up or down hole dilution has been included within the mineralisation envelope where edge samples report grades > 1 g/t Au in order to account for external mining dilution should a small scale mining operation be considered. Two wireframe solids models were generated based on the interpreted mineralisation constraints; a 'main' zone

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		capturing most of the mineralisation from surface to depth, and a 'minor' zone associated with a bifurcation of the porphyry to the north at depth. • Due to inconsistencies in the geological logging of weathering and oxidation of the host rocks amongst the various drilling programmes, logging of host rock hardness completed by Heron was used to interpret the base of soft and medium hardness protolith material as a proxy to define highly and moderately weathered and fresh rock horizons. Much deeper weathering is evident in the komatiite compared to the host porphyry unit. The base of the modelled highly weathered porphyry averages approximate 5m depth compared to 20m depth in the adjacent komatiite. The modelled average depth of moderate weathering is 15m in the porphyry and 40m in the immediately adjacent komatiite. The depth of weathering in the komatiite appears to rapidly diminish laterally away from the porphyry and has been modelled accordingly.
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.*	• The mineralisation envelopes used to constrain resource estimation extend over a total strike length of 125m with the main zone extending over a strike length 120m and the minor zone at depth modelled over a strike length of 25m. • The longest continuous zone of mineralisation (approx. 75m along strike) occurs from 15m to 40m depth. This decreases to a relatively constant modelled strike length of 55m to 100m vertical depth and diminishes to zero at 160m depth due a lack of drilling. • The mineralisation envelope averages approximately 12m wide and thins at depth due to combination of a lack of drilling and complications relating to the bifurcation in the host porphyry unit.
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 (e.g. 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.*	• A conventional 3-D sub-blocked block model has been constructed with domaining based on the 3-D wireframe modelling of the porphyry-komatiite contact, surface topography, base of alluvial material, base of soft protolith (highly weathered) and base of moderately hard protolith (interface between moderately weathered protolith and fresh rock. • The block model was constructed with the Y axis rotated to an azimuth of 335˚, aligned with the trend of the gold mineralisation. The X axis of the model was therefore orientated towards an azimuth of 065˚. The model was constructed using parent block dimensions 2.5 m X by 5 m Y by 2 m Z with consideration of the drillhole spacing, and variable size sub-blocking with minimum dimensions 1.25 m X by 2.5 m Y by 1 m Z to define accurate representation of geometry of the modelled geological boundaries and volumes of the domains. All variables required to record domain coding based on the geological modelling, grade estimates and corresponding estimation statistics, and insitu density and resource classification assignments were incorporated into the block model. The block model domain coding was validated relative to the input wireframe surface and solid models used to construct the block model and confirmed to provide robust representation of the intended domain coding, wireframe geometries and volumes. • Domain coding based on the geological modelling was assigned to the drillhole samples and the corresponding gold assay data was composited to uniform 2 m intervals, being the larger of the dominant sample intervals (1 m and 2 m), in preparation for statistical analysis and grade estimation. • Descriptive and distribution statistics were compiled based on the 2 m composites of the drillhole assay data captured within the modelled mineralisation wireframe solids. Statistics of the data subdivided by the main explorers of the prospect were reviewed and found to be similar, indicating that the quality of the sampling and accuracy of analytical data are also similar with no evidence of bias in the magnitude or statistical distribution of grades in the data collected by any of the explorers. Statistics of the data subdivided by the weathering domains indicate that most of the mineralisation is in fresh rock. However, the mean grade of the moderate weathered mineralisation is highest at 3.06 g/t Au based on 42 composites, as compared with a mean grade of 2.21 g/t Au based on 376 composites for the mineralisation in fresh rock. This suggests that there is relatively minor supergene enrichment of gold grades in the moderately weathered material. There appears to be little mineralisation in strongly weathered rock for which a total of 9 composites report a mean grade of 0.98 g/t Au. There is no evidence of high grade outlier data in any of the mineralised domains that required cutting prior to grade estimation. • The continuity of the gold mineralisation was statistically assessed by undertaking variography based on the 2 m composites of the gold assay data captured within the modelled mineralisation domains. This assessment was undertaken as part of the resource estimation study and the resultant variogram model applied in ordinary kriging grade estimation. The captured experimental variography confirms the northwest trend and near vertical dip of the mineralisation but does not indicate the presence of any significant anisotropy coinciding with the overall north westerly plunge of the mineralisation evident based on the drilling data. The variography was modelled with the major axis trending towards an azimuth of 155˚ and a vertical semi-major axis. The variance was modelled with a nugget effect (25%) and a single spherical structure (75%), and ranges of 50 m in both the major and semi-major axis directions, and 2 m in the minor axis direction. • Resource grade estimation was constrained within the two mineralisation domains using parent block discretisation of two steps in the rotated X direction, four steps in

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		the rotated Y direction and two steps vertically for a total of 16 discretisation points. All estimates were undertaken for parent blocks with parent block estimates assigned to internal sub-blocks. All estimates for both mineralisation domains were completed using an ellipsoidal sample search with 50 metre radii in the major and semi-major axis directions and a 10 metre radius in the minor axis direction. • The ellipsoid for the main mineralisation domain (min_zone = 10) was orientated in the same manner determined from the continuity analysis, with the major axis pointing horizontal towards an azimuth of 155˚, and the semi-major axis pointing vertical. An octant search was applied with boundary planes orientated perpendicular to the three search ellipsoid axes with a maximum of two composites used from any one octant, a maximum of four composites was used from any one drillhole, and a minimum of two and maximum of 16 composites used to complete a block estimate. Kriging was completed using the variogram model parameters described above under the section 'Continuity Analysis'. All blocks within the domain were estimated in a single estimation pass. • The minor mineralisation domain at depth (min_zone = 20) was divided into two estimation domains based on interpreted changes in the orientation of the mineralisation. The ellipsoid major axis was orientated plunging at -63˚ towards an azimuth of 323˚ in southern half of the domain, and at -48˚ towards an azimuth of 001˚ in the northern half. The semi-major axis for both sub-domains was orientated by rotating -70˚ (clockwise) from horizontal around the major axis. These same orientation parameters were also applied in the variogram models used for ordinary kriging. While no sectoring of the sample search ellipsoids was employed, a maximum of four composites from any one drillhole, and a minimum of two composites were used to complete a block estimate. Note that this mineralisation domain is represented by only seven composites from two drillhole intersections. All blocks within each sub-domain were estimated in a single estimation pass. • The block model grade estimates were validated both visually and statistically. The estimates informed by close spaced drilling (often on a 6 m X by 10 m Y grid) within 40 metre of surface are considered to provide high confidence representation of the spatial distribution and variability grades at the resolution of the parent block dimensions (2.5 m X by 5 m Y by 2 m Z). The local block estimates informed by broader spaced drilling at depth are of lower confidence but are still considered to provide a robust estimate of the global tonnes and grade of the deeper mineralisation using a relatively low cutoff grade (e.g. 0.5 g/t Au).
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Resource tonnages are estimated on a dry basis using appropriate insitu dry density values based on density measurements of the same rock types at present at Big Four Gold.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Locally, elevated gold grades above 0.01 g/t Au based on the Ardea Big Four Gold dataset most commonly occur within the porphyry (rarely outside in the Siberia komatiite) except proximal to porphyry margins. • A grade of 0.5 g/t Au was selected as an appropriate nominal cutoff for resource grade envelope definition, defining the lower limit of gold grades typically intersected along the margins of the porphyry, and is also considered suitable for Mineral Resource reporting according to JORC Code (2012) Guidelines with regards to reasonable expectations of economic development relative to ranges in future gold prices and proximity of the mineralisation to surface. Allowance for mining dilution has also been incorporated into the modelled mineralisation envelope, wherein, 1m up or down hole dilution has been included within the modelled mineralisation envelope where edge samples report grades > 1 g/t Au in order to account for external mining dilution should a small scale mining operation be considered based on the Mineral Resource presented in this report.
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.*	• The resource modelling allows consideration of both open cut and underground mining methods however, it is assumed that an initial open cut development would be followed by underground mining from a decline developed from the pit floor. • It is envisaged that initial open cut mining would be undertaken on 4m benches requiring drill and blast of the host porphyry unit from near surface with potential free dig of adjacent komatiite waste to 20m depth. • The resource model assumes that potential selective mining could be undertaken to a minimum width of 2.5m and 5m along strike. • Any investigation into the potential for underground mining would be constrained by a minimum 2.5m mining width based on the same minimum dimension of the resource model parent block estimates.
Metallurgical factors or assumptions	• *Where comprehensive reporting of all 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*	• No metallurgical considerations have been incorporated into the resource block model. • Current understanding of the mineralisation at Big Four Gold indicates that much of the mineralisation occurs as free gold. • The ratio of potentially refractory mineralisation remains unknown and requires metallurgical test work.

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	assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this shouldbe reported with an explanation of the basis of the metallurgical assumptions made.	
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.*	• No assumptions have been considered in the resource estimate with regards to environmental factors. • Appropriate allowance for such factors will be considered as part a potential project development plan in the future.
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.*	• No measurements of in situ density have been collected of the mineralised or waste rock materials at the Big Four Gold prospect. However, suitable bulk density values have been assigned to the resource model based on published bulk density data for similar rocks at other locations and common sense relationships between decreasing density and increasing weathering of similar rocks in the Eastern Goldfields of Western Australia. • Fresh komatiite typically has an insitu density of 2.8 t/m3 while fresh intermediate porphyry (e.g. hornblende diorite) often has a density of 2.9 t/m3. Ardea has assigned a density of 2.8 t/m3 to both the fresh porphyry and komatiite domains in the resource model. • The moderately weathered block model domains for both these rock types were assigned a density of 2.4 t/m3, while the strongly weathered domains were assigned a density 2.0 t/m3. All blocks representing the modelled transported material near surface were assigned a density of 1.8 t/m3. • There is no differentiation in the density assignments between the mineralised and unmineralised domains, although differences may become evident if density measurements of all the material types present at Big Four Gold are collected in the future.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, 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.*	• A substantial database resulting from an extensive history of mining and exploration at Big Four Gold has been compiled and used to generate the resource estimate. • All the available exploration data has been assessed in detail. • Comparison of data from the various phases of exploration at Big Four Gold has identified no material deficiencies or errors in the exploration data collected between 1984 and present that has been used for resource estimation. • The entire estimated region in the resource block model has been classified as an Inferred Resource based all the available exploration data, geological modelling and data analysis. • It is envisaged that most of the resource within 40m of surface could be upgraded to a combination of Measured and Indicated Resources should a small diamond drilling programme be undertaken to provide insitu density data, metallurgical samples and geotechnical data.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No formal independent audit of the resource estimate has been undertaken. However, the parameters used for 3-D modelling and resource estimation have been discussed in detail with Ardea geological staff and management. No material omissions of analysis or errors in the modelling approach or results were identified.
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*	• Measures of estimation confidence including the number of samples, distance to closest sample, number of drillholes used, kriging variance, slope of regression, and kriging efficiency were recorded for all blocks during ordinary kriging grade estimation. • High confidence estimates supportive of potential Measured and Indicated resources if a small diamond drilling programme is undertaken to provide insitu density data, metallurgical samples and geotechnical data, have been completed for most blocks within 40m of surface. Lower confidence estimates based on the lower density drilling down plunge to the north are and will remain Inferred unless infill drilling is undertaken.

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	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.*	