Ardea Resources Limited

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ASX Symbol

ARL

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Issued Capital

Shares
67,000,747

Unlisted options
12,310,022

ABN 30 614 289 342

Large mineralised system confirmed by initial Lewis Ponds drill results

Drill results confirm a large mineralised system commensurate with a potentially substantial open pit bulk tonnage zinc-gold-silver operation

- Extensive zones of zinc, gold, silver, and lead mineralisation have been intercepted by the first two drill holes at Lewis Ponds.
- The broad mineralised intercepts are typical of the major deposits of the region, indicating the potential for a bulk-tonnage mining operation at Lewis Ponds.
- Intercepts from hole ALD0001 are:
  - **51.37m at 2.45 % Zn equiv.**[1] or **1.48 g/t Au equiv.**[2] (1.28 % Zn, 0.18 g/t Au, 22.0 g/t Ag, 0.51 % Pb, and 0.11 % Cu) from 41.6m
  - **20.91m at 2.74 % Zn equiv.** or **1.63 g/t Au equiv.** (1.39 % Zn, 0.17 g/t Au, 32.7 g/t Ag, 0.56 % Pb, and 0.10 % Cu) from 110.76m
- Intercept from hole ALD0002 is:
  - **16.40m at 8.53 % Zn equiv.** or **5.07 g/t Au equiv.** (4.73 % Zn, 0.86 g/t Au, 75.9 g/t Ag, 1.44 % Pb, and 0.19 % Cu) from 43.60m
- Results pending for holes ALD0003 and ALD0004
- Samples collected from the drilling to be used for metallurgical testwork for pre-feasibililty study.

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[1] *Zn equivalents defined using the following values (11/4/2017 US$ price, expected recovery proportion): Zn ($2658/t, 100%), Au ($1258/oz, 90%), Ag ($17.92, 80%), Pb ($2259/t, 80%), Cu ($5730.5/t, 80%). Zn equiv. = Zn(%) + 1.369Au(g/t) + 0.017Ag(g/t) + 0.680Pb(%) + 1.725Cu(%). These values used for zinc equivalent calculations throughout this announcement (except for the previously announced Exploration Target). Zinc equivalents are used because zinc contributes most to the metal equivalent calculations.*

[2] *Au equivalents defined using the following values (11/4/2017 US$ price, recovery): Zn ($2658/t, 80%), Au ($1258/oz, 100%), Ag ($17.92, 80%), Pb ($2259/t, 80%), Cu ($5730.5/t, 80%). Au equiv. = 0.526Zn(%) + Au(g/t) + 0.011Ag(g/t) + 0.447Pb(%) + 1.133Cu(%). These values used for gold equivalent calculations throughout this announcement (except for the previously announced Exploration Target). Gold equivalents are used because gold is a significant proportion of the deposit by value, and they allow for direct comparison to major deposits of the region.*

Ardea Resources Limited (ASX: ARL, "Ardea" or "the Company") is pleased to announce extensive broad scale intercepts of base- and precious-metal mineralisation (e.g. Figure 1) from the first two drillholes at Lewis Ponds in NSW.

The successful identification of this gold, silver, zinc and lead mineralisation confirms the Company's hypothesis that the Lewis Ponds deposit is more like the major deposits of the Lachlan Fold Belt region (in terms of its bulk tonnage potential) than has been previously recognised.

Results are presented for the first two diamond drill holes drilled by Ardea at Lewis Ponds in March 2017.

Figure 1 – Mineralisation in ALD0001 (deep bronze colouring) (tray 14, 42.6 to 46.8 m).

Geology and mineralisation

Lewis Ponds is a zinc-gold-silver(-lead-copper) deposit in the Lachlan Fold Belt of NSW (Figure 2). The belt is host to numerous major bulk tonnage gold and base metal mines. Of particular note is that the major deposits at Northparkes and Cadia are hosted within or adjacent to the Lachlan Transverse Zone (LTZ), a west-northwest trending lineament that is thought to represent a fundamental crustal weakness that corresponds to major mineralisation. Several of Ardea's projects, including notably Lewis Ponds, are located within the LTZ.

Drill holes ALD0001 and ALD0002 (Table 1) are the northern two holes of the recent drill program aimed at generating material for Lewis Ponds metallurgical test-work. These holes filled gaps in the distribution of the extensive historic drilling and were designed primarily to provide material for metallurgical testwork as well as generate data in gaps in the database. They will also be used to answer questions regarding controls on the mineralisation, distribution of gold and silver relative to the base metals, and the extent and distributions of low-grade mineralisation relative to the higher-grade (deeper set) mineralisation that has been the focus during previous exploration efforts. Additionally, Ardea has interpreted that the shallow higher grade portions of the mineralisation may have a supergene sulphide component, which will require specific metallurgical assessment.

Table 1 – Status of results from the recent drill program at Lewis Ponds. See Appendix 1 for full collar details.

Drillhole	Northing (LP Grid)	Collar Dip	Azimuth	Depth	Assay results
ALD0001	11000	60	270	259.2	Reported here, oxide zone pending
ALD0002	10800	60	270	100.0	Reported here, oxide zone pending
ALD0003	10600	60	270	190.6	Pending
ALD0004	10400	60	270	230.0	Pending

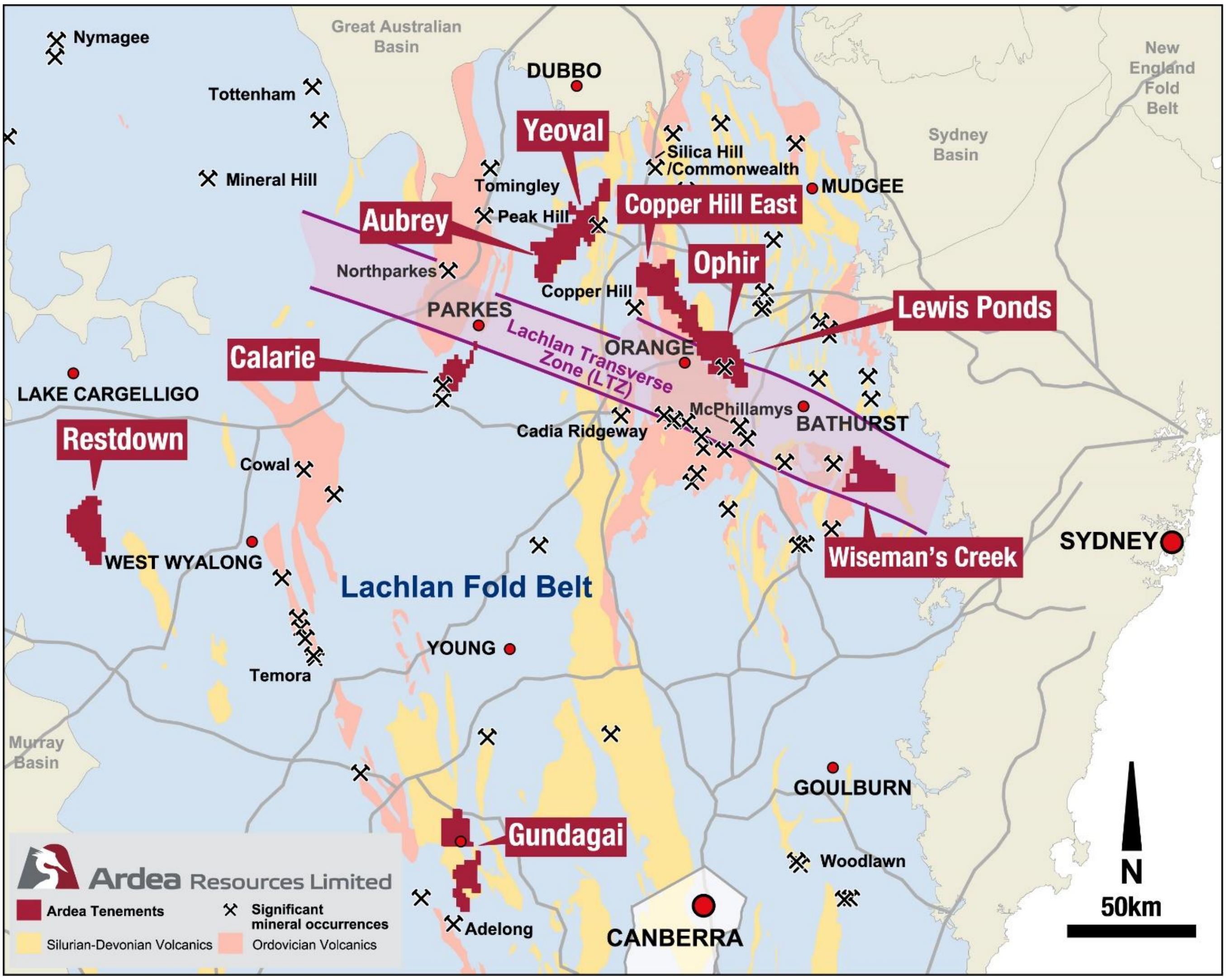

Figure 2 – Map of Ardea's projects in the Lachlan Fold Belt of NSW. Lewis Ponds is, like many of the region's major deposits, located in the highly prospective Lachlan Transverse Zone.

Visible mineralisation has previously been reported to comprise sphalerite, pyrite, galena, pyrrhotite, and trace chalcopyrite. Gold and silver have not been observed in hand specimen. The host rock sequence comprises a marine sequence of felsic to intermediate sediment-facies volcaniclastic rocks.

The sequence has been metamorphosed to around lower greenschist facies, and deformation is pervasive, varying from mild to strong and has clearly influenced mineralisation.

A series of intercepts have been calculated for Ardea's first two drill holes at Lewis Ponds. By using a cutoff of 1.5% zinc equivalent, mineralised intercepts have been defined of a broad style anticipated by Ardea and that are typical of the major deposits of the Lachlan Fold Belt of NSW.

The listing of assays for all samples received from Ardea's first two drillholes at Lewis Ponds is presented in Appendix 3.

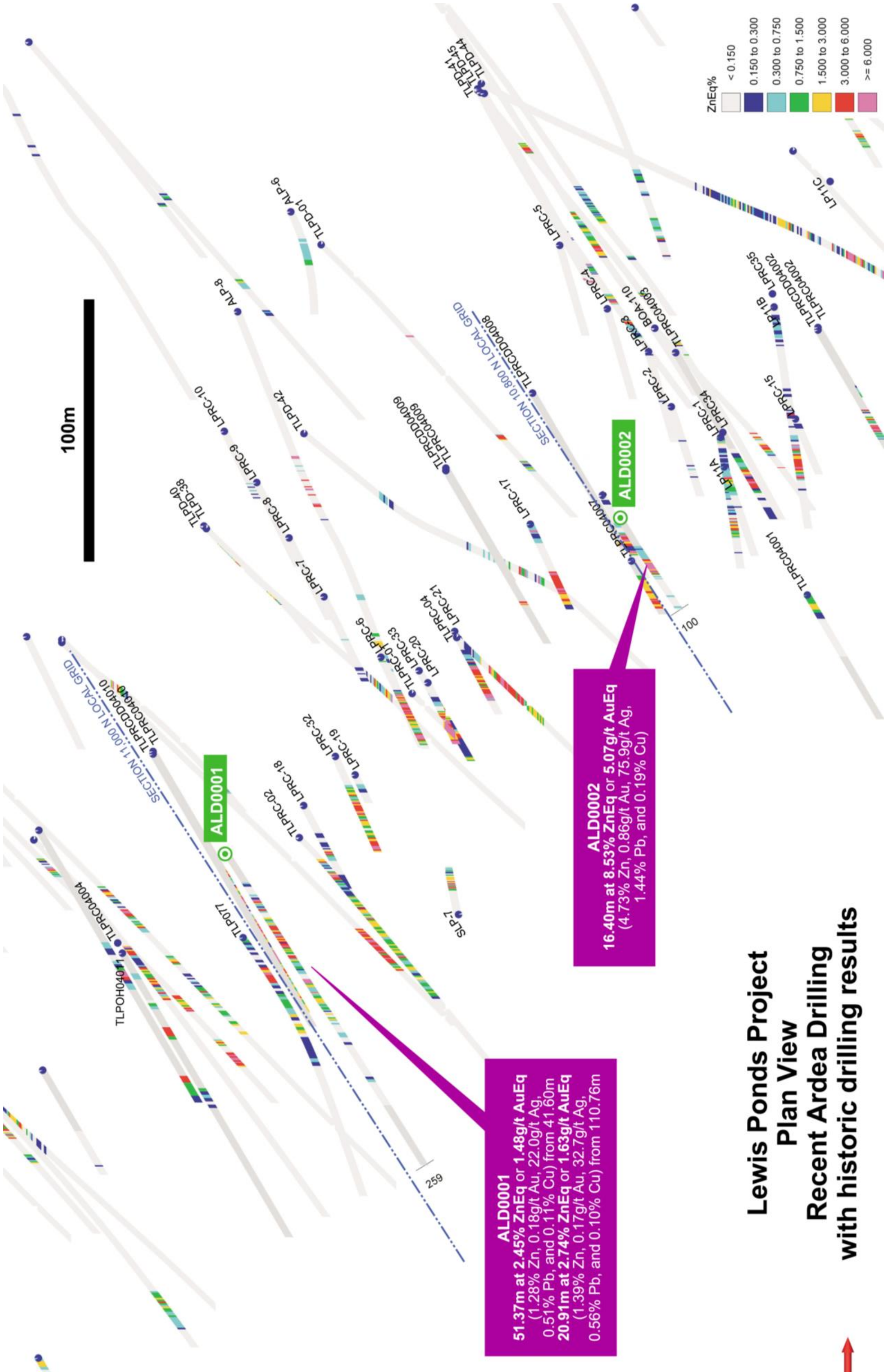

Figure 3 – Plan view of mineralisation in drilling around the 10800 and 11000mN sections at Lewis Ponds, showing the locations of ALD0001 and ALD0002.

Mineralisation in ALD0001

In ALD0001, two broad mineralised "Polymetallic Stringer" sphalerite-pyrite zones which are separated and surrounded by disseminated low grade mineralisation were intersected:

- **51.37 m at 2.45 % Zn equivalent** or **1.48 g/t Au equivalent** (1.28 % Zn, 0.18 g/t Au, 22.0 g/t Ag, 0.51 % Pb, and 0.11 % Cu) from 41.60 m
- **20.91 m at 2.74 % Zn equivalent** or **1.63 g/t Au equivalent** (1.39 % Zn, 0.17 g/t Au, 32.7 g/t Ag, 0.56 % Pb, and 0.10 % Cu) from 110.76 m

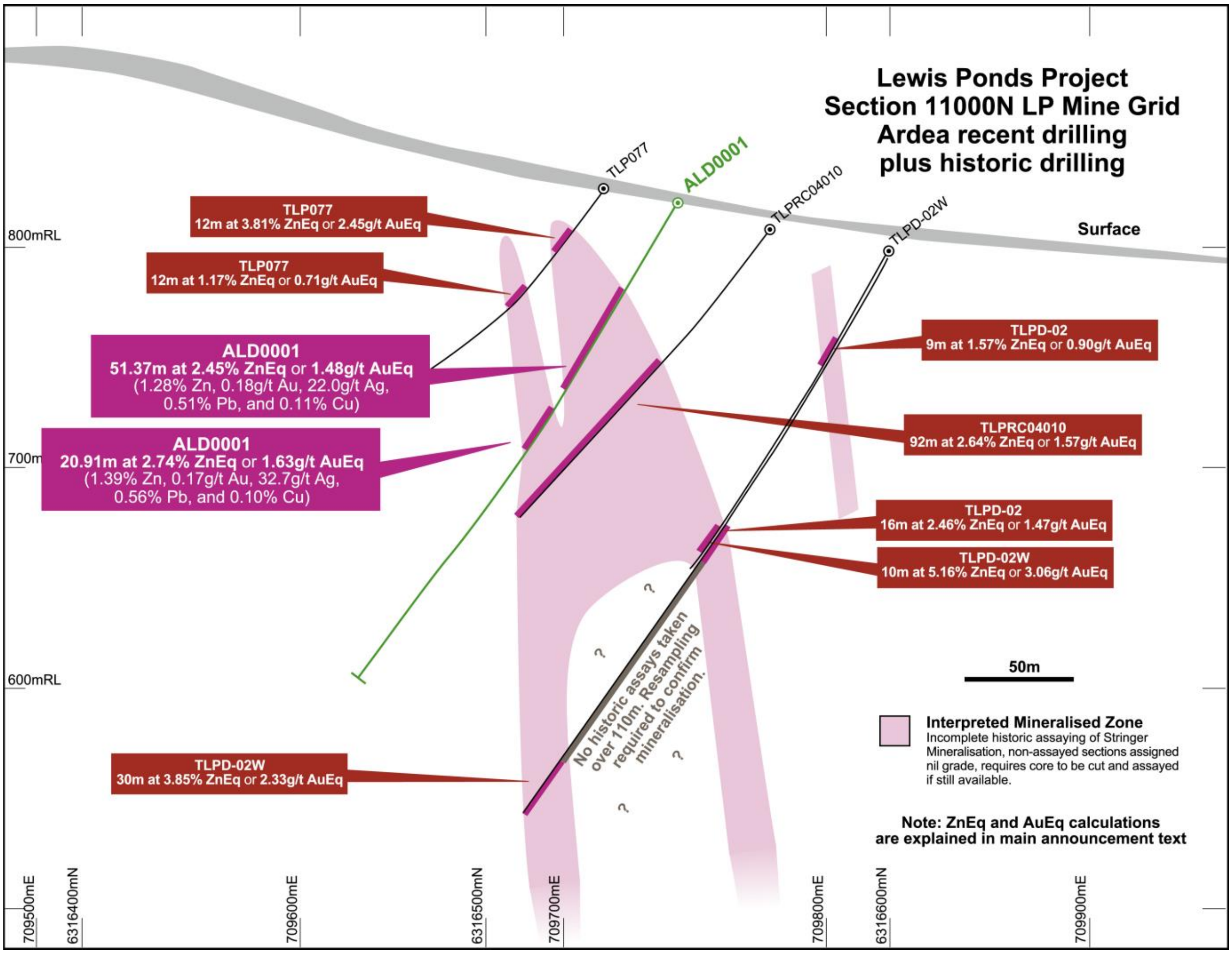

Figure 4 – Cross section along the 11000mN line on the Lewis Ponds grid, showing interpreted mineralisation distributions.

These two intercepts combined with the lesser mineralised zone between them cover a downhole thickness of 104.25 m. Over this thickness, the interstitial and mineralised zones show a distinct geochemical signature that comprises elevated zinc (>0.3 %), gold (>0.2 g/t), silver (>15 g/t), antimony (>30 ppm), and manganese (>800 ppm), and depleted barium (<200 ppm) compared to non-mineralised zones. Using these criteria, a strong Polymetallic Stringer mineralised sequence is evident that encases the above intercepts within a broad zone measuring:

- **104.25 m at 1.94 % Zn equivalent** or **1.15 g/t Au equivalent** (1.01 % Zn, 0.13 g/t Au, 19.5 g/t Ag, 0.40 % Pb, and 0.08 % Cu) from 41.60 m.

This zone is geologically and geochemically coherent, and corresponds to strong chlorite-pyrite alteration, whereas sericite-dominant alteration occurs outside the Stringer zone. Common chloritic shear zones, white quartz veining and solution brecciation of carbonate horizons are consistent with a high strain environment conducive to fluid movement.

Mineralisation in ALD0002

In ALD0002, a single higher-grade zone comprised of Polymetallic Stringer sphalerite-pyrite mineralisation shows an abrupt contact with the surrounding rock types.

- **16.40 m at 8.53 % Zn equivalent** or **5.07 g/t Au equivalent** (4.73 % Zn, 0.86 g/t Au, 75.9 g/t Ag, 1.44 % Pb, and 0.19 % Cu) from 43.60 m

In addition, this intercept is underlain by the footwall dolomite unit, and the hangingwall volcaniclastics are oxidised due to proximity to surface. It is likely that the intercept in ALD0002 is the basal portion of the mineralised zone that is more completely preserved in ALD0001. The ALD0002 mineralisation likely has a supergene sulphide component.

Core hole ALD0002 has twinned historic reverse circulation drill hole LPRC0016. Comparison results are acceptable, with LPRC0016 intersecting 16 m at 4.42 % Zn equivalent or 2.71 g/t Au equivalent (2.05 % Zn, 0.79 g/t Au, 74.0 g/t Ag, no historic assays for Pb or Cu) from 34 m. The historic RC drilling would appear to have underestimated zinc grade.

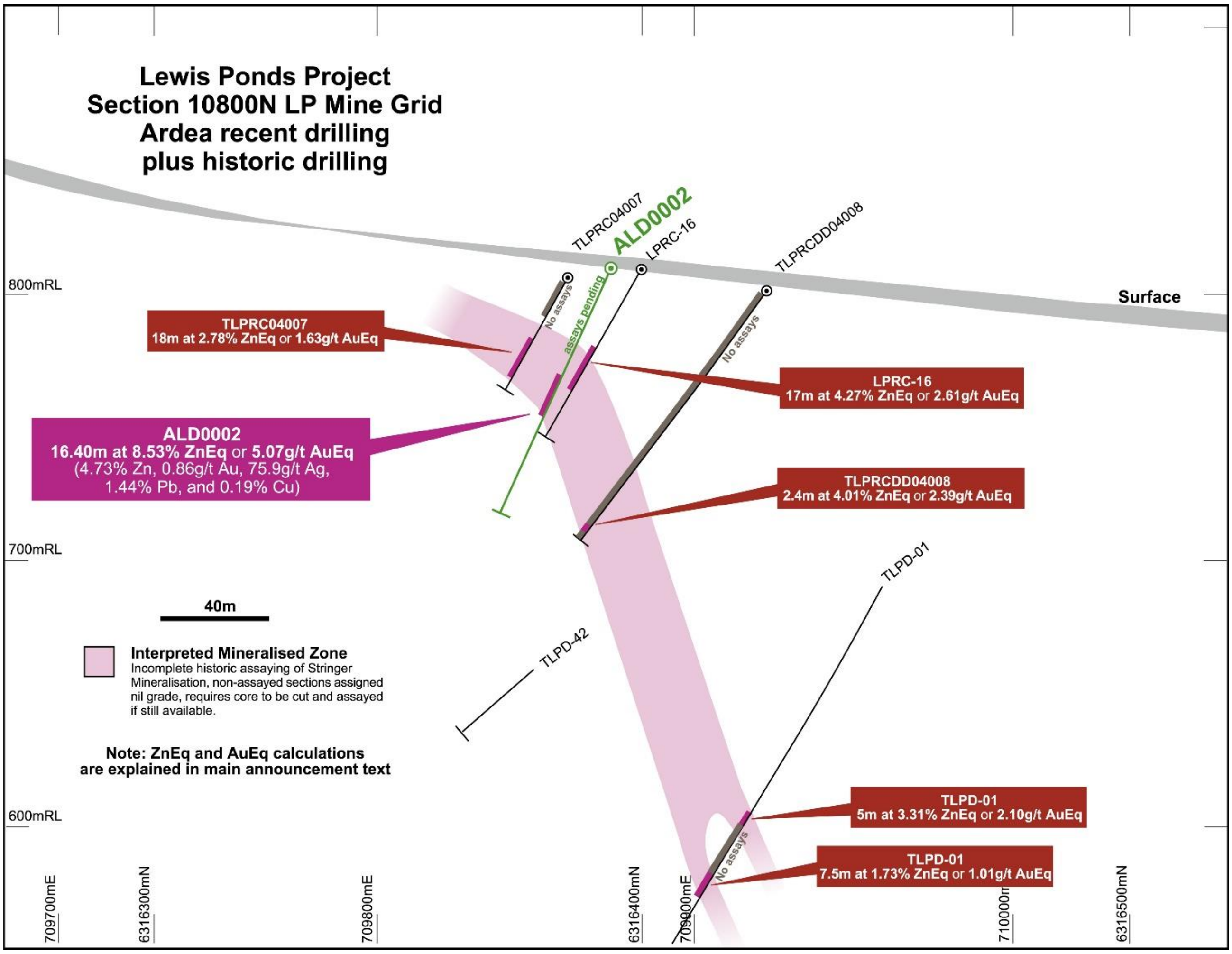

Figure 5 – Cross section along the 10800mN line on the Lewis Ponds grid, showing interpreted mineralisation distributions.

Similarities with the major deposits of the region

Previously, Lewis Ponds has been explored as a high-grade underground deposit, with a historic resource of 6.6Mt at 1.5g/t Au, 69g/t Ag and 2.4% Zn[3] estimated at a 3% ZnEq cut-off grade (refer Prospectus Table 3.2 for full description of resource status).

The published Lewis Ponds resource of 6.6 million tonnes (refer below) as a potential underground operation was calculated at a 3% zinc equivalent cut-off (as opposed to Ardea's 1.5% zinc equivalent cut-off) for an envisaged open pit mining operation. The Ardea concept is consistent with bulk tonnage operations in the central Lachlan Fold Belt (LFB) which are all low grade, bulk excavation-based (Table 2). Both Cadia and Northparkes produce sulphide concentrates with precious metal credits, whereas Cowal and the undeveloped McPhillamys deposit utilise (or propose to utilise) a carbon-in-leach (CIL) flowsheet. In terms of metal value (i.e. zinc and gold equivalent values), the mineralised zones intercepted in ALD0001 and ALD0002 match or exceed those of the major Lachlan Fold Belt operations (Table 2).

Table 2 – Examples of Lewis Ponds mineralisation compared to some of the major mining operations (current and proposed) of the Lachlan Fold Belt.

Operation	Mining	Processing	Mtpa	Example intercept	Zn (%)	Au (g/t)	Ag (g/t)	Pb (%)	Cu (%)	Zn Eq (g/t)	Au Eq (g/t)
Lewis Ponds	Open pit	Zinc con	?	ALD0001[1]	1.28	0.18	22.0	0.51	0.11	**2.45**	**1.48**
				ALD0001[2]	1.01	0.13	19.5	0.40	0.08	**1.94**	**1.15**
				ALD0002[3]	4.73	0.86	75.9	1.44	0.19	**8.53**	**5.07**
Northparkes	Block cave	Copper con	6.0	–	–	0.24	–	–	0.85	**1.80**	**1.21**
Cadia	Block cave	Copper con	22.0	–	–	0.94	0.5	–	0.29	**1.80**	**1.27**
Cowal	Open pit	CIL	7.3	–	–	1.11	–	–	–	**1.52**	**1.11**
McPhillamys	Open pit	CIL	–	–	–	0.94	–	–	–	**1.29**	**0.94**

[1] ALD001, 41.60 – 92.97 m. [2] ALD001, 41.60 – 145.85 m. [3] ALD0002, 43.60 – 50.00 m

These results justify Ardea's updated Exploration Target for the Lewis Ponds deposit, estimated at **15–25 Mt at 2.2–3.7 % ZnEq** or **1.2–2.0 g/t AuEq**[4] (Heron Resources announcement, "Ardea Project Update" dated 6 January 2017).

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

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

[4] *Details of the Exploration Target were described in full in the announcement by Heron Resources dated 6 January 2017. An Exploration Target is a term used within the JORC2012 Code for an estimate of the exploration potential of a mineral deposit. As used in this release the stated Exploration Target is based upon the parameters described in the text, however the potential quantity and grade is conceptual in nature and there is insufficient information to estimate a Mineral Resource and it remains uncertain if further exploration will result in the estimation of a Mineral Resource in this area of drilling. For this previously published Exploration Target, Zn equivalents were defined using the following values (21/12/2016 US$ price, recovery): Zn ($2617/t, 100%), Au ($1133/oz, 90%), Ag ($16.00, 80%), Pb ($2259/t, 80%), Cu ($5488.5/t, 80%). Zn equiv. = Zn(%) + 1.253Au(g/t) + 0.016Ag(g/t) + 0.665Pb(%) + 1.678Cu(%). Values used for zinc equivalent calculations throughout this announcement (except for the previously announced Exploration Target). Zinc equivalents used as zinc contributes most to the metal equivalent calculations. Au equivalents were defined using the following values (21/12/2016 US$ price, recovery): Zn ($2617/t, 80%), Au ($1133/oz, 100%), Ag ($16.00, 80%), Pb ($2177/t, 80%), Cu ($5488.5/t, 80%). Au equiv. = 0.575Zn(%) + Au(g/t) + 0.016Ag(g/t) + 0.478Pb(%) + 1.205Cu(%). Gold equivalents used for direct comparison to major deposits of the region. Scoping study level financial model for a 1.5Mtpa open-pit with base metal float circuit indicates 1.6% ZnEq is a suitable break-even cut-off grade.*

Results for the remaining two drillholes at Lewis Ponds are expected shortly. Ardea looks forward to updating shareholders once results are received. Additionally, results for the oxidised portions of ALD0001 and 0002 are awaited.

Pre-feasibility study

A study manager has been appointed for Ardea's Lewis Ponds Pre-feasibility Study and a metallurgical laboratory retained.

Once results for all four holes drilled to date are available, the core will be composited into "run-of-mine" grade bulk samples for metallurgical testwork.

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

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Compliance Statement (JORC 2012)

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

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

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

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

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

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

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

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

Appendix 1 – 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 (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Samples from the diamond-core holes are being taken from mostly HQ3 and NQ3 sized core and sampled on a nominal 1 metre basis taking into account smaller sample intervals up to geological contacts. The core is cut in half along the core orientation line (where available) and in massive sulphide zones one portion is quartered for assaying, half the core is preserved for metallurgical testing and the remaining quarter is retained as reference material in the core trays. In non-massive sulphide material half core is sampled. • These sampling methods are standard industry methods and are believed to provide acceptably representative samples for the type of mineralisation encountered.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details.*	• Diamond-core drilling was undertaken by a Sandvik DE710 rig with mostly NQ3 sized core being drilled. Various techniques are employed to ensure the hole is kept within limits of the planned position. The core is laid out in standard plastic cores trays.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• The core is transported to an enclosed core logging area and recoveries are recorded. Recoveries to date have been better than 95%. The core is orientated where possible and marked with 1 metre downhole intervals for logging and sampling.
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.*	• The diamond core is geologically logged by qualified geologists. Geotechnical logging is also being undertaken on selected sections of the core. Samples for metallurgical testing are being kept in a freezer to reduce oxidation prior to being transported to the metallurgical laboratory.
Sub-sampling techniques and sample preparation	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• All core and rock chip samples are crushed then pulverised in a ring pulveriser (LM5) to a nominal 90% passing 75 micron. An approximately 250g pulp sub-sample is taken from the large sample and residual material stored. • A quartz flush (approximately 0.5 kilogram of white, medium-grained sand) is put through the LM5 pulveriser prior to each new batch of samples. A number of quartz flushes are also put through the pulveriser after each massive sulphide sample to ensure the bowl is clean prior to the next sample being processed. A selection of this pulverised quartz flush material is then analysed and reported by the lab to gauge the potential level of contamination that may be carried through from one sample to the next.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Sample preparation and assaying is being conducted through ALS Laboratories, Orange, NSW with certain final analysis of pulps being undertaken at the ALS Laboratory in Brisbane QLD. • Gold is determined by 30g fire assay fusion with ICP-AES analysis to 1ppb LLD. • Other elements by mixed acid digestion followed by ICP-AES analysis. • Laboratory quality control standards (blanks, standards and duplicates) are inserted at a rate of 5 per 35 samples for ICP work.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• An internal review of results was undertaken by Company personnel. No independent verification was undertaken at this stage. • All field and laboratory data has been entered into an industry standard database using a contract database administrator (DBA) in the Company's Perth office. Validation of both the field and laboratory data is undertaken prior to final acceptance and reporting of the data. • Quality control samples from both the Company and the Laboratory are assessed by the DBA and reported to the Company geologists for verification. All assay data must pass this data verification and quality control process before being reported.
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.*	• The drill collars were initially located with a combination of handheld GPS and licenced surveyor using a DGPS system, with accuracy of about 1m. The final drill collars are "picked up" by a licenced surveyor with accuracy to 1 centimetre. • While drilling is being undertaken, downhole surveys are conducted using a downhole survey tool that records the magnetic azimuth and dip of the hole. These recordings are taken approximately every 30 metres downhole. Where possible holes are also being surveyed with gyroscopic methods, with some 80 percent of holes drilled in the current program also surveyed by this method after drilling has been completed.
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 diamond drilling is mostly following-up in various directions from previous intercepts with a nominal spacing in the range 50-100m. This drill hole spacing will be sufficient to provide Mineral Resource estimates in the future.
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.*	• The drilling orientation is designed to intersect the mineralised lenses at a close to perpendicular angle. The mineralised lenses are dipping at approximately 50-60 degrees to the northeast and the drilling is approximately at 60 degrees to the southwest. This will vary from hole to hole.
Sample security	• *The measures taken to ensure sample security.*	• Samples are being secured in green plastic bags and are being transported to the ALS laboratory in Orange, NSW via a courier service or with Company personnel/contractors.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• A review and assessment of the laboratory procedures was under taken by Company personnel in late 2016.

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 Lewis Ponds project is located 14km east-northeast of the city of Orange, central New South Wales, and has an elevation 700 m and 900 m above sea-level. • The exploration rights to the project are owned 100% by the Ardea Resources through the granted exploration licence EL5583, which expires on 24 June 2017. 5 year renewal of the licence. • A capped (A$2M) royalty and finders fee is payable to a private third party if the project is sold or commences production. • The project is on partly cleared private land, most of which is owned by Ardea. Access agreements are in place for the private land surrounding the main deposit area. There are no national parks, reserves or heritage sites affecting the project area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Lewis Ponds deposit and surrounding workings were part of Australia's first recognised gold field, discovered 1835. Various surface and shallow underground mining operations and associated processing and smelting operations were present at various times between discovery and approximately 1920. The detailed history for this period is presently the subject of research. • Amax Exploration Australia Inc entered a Joint Venture Agreement which Metals Investments Holdings NL and A.I.Consolidated Gold Pty Ltd held with the owner of the title ,Wentworth Mining Corporation Pty Ltd, over ground which included the Lewis Ponds deposit. Amax drilled four DD holes totalling 875 meters in 1971-1972 which contributed four intercepts above 7% ZnE to this Resource estimate. The only drilling done prior to Amax was by Cominco in 1969. Three holes were abandoned after entering disused workings at the Spicers Mine location, Lewis Ponds. • Subsequent drilling by Aquitaine Australia Minerals Pty Ltd in 1975-1976 was under joint venture agreement with Amax and Shell Company of Australia. 10 (BOA series) holes were drilled totalling 2102 metres, which also contributed four intercepts. • Between 1979 and 1981 a further 7 holes totalling 2274 metres (SLP series) were drilled by Shell and Aquitaine under the JV agreement with Amax. This drilling contributed five intercepts including one twinned in a wedge hole. In total, other party exploration contributed 15 percent of the database which now determines the geometry of potentially ore grade mineralisation for this Resource estimate. • In 1987-1988, the Homestake subsidiary Sabminco drilled 33 RCP holes totalling 2300 metres

Criteria	JORC Code explanation	Commentary
		(LPRC series). This drilling contributed 21 intercepts of the 230 used to interpret the Resource. • Prior to the acquisition of TriAusMin by Heron in August 2014, Tri Origin Australia drilled 42232 metres in 124 holes, followed by Tri Origin Minerals with 3812 metres in 30 holes.
Geology	• *Deposit type, geological setting and style of mineralization.*	• The most recent statement of the Lewis Ponds geology by Dr Peter Gregory (2005) has also built on much prior geological insight by other parties in the 1970s and 1980s, and by geologists employed by predecessor companies to Tri Origin Minerals since 1992. Also between 1999 and 2003 a comprehensive Ph.D study of the geology was made (Agnew 2003) A re-cast of Peter Gregory's summary is as follows: • Type: Results of the study show that primary volcanogenic mineralisation of Late Silurian age developed within an extensive axial zone over 1200m in a moderately deep water trough (extensional back arc). Mineralisation deposited at one horizon close to and possibly on the seafloor within sediments and volcaniclastics and at the end of a rhyolite-dacite volcanic episode involving lava domes. Tom's Zone in the south formed in a quieter sedimentary environment dominated by siltstones. Current work by Ardea is showing that late-stage gold mineralization overprints the earlier VMS style mineralsation. • Setting: The Lewis Ponds mineralised zone is located on the eastern limb of a major regional F1 anticline and within several subsidiary anticlinal and synformal zones on that limb. Plunges are variable with Main Zone plunging moderately northwest, but there appears to be little or no plunge along other sections of the mineralised trend. Various reverse faults probably emanating from a basal sole thrust at the contact of the Ordovician basement and the Silurian rift succession cut the axial zones of several of these folds and leave most volcanic sediment contacts as fault zones. The Lewis Ponds Fault, a ductile and brittle fault zone cuts a synform axis and has caused, kinking and reorientation of cleavage and remobilisation of sulphides. An interpreted southwest-northeast dip slip fault near 1220N is suggested to downfault the mineralised package to the northwest • Style of mineralisation: Main Zone mineralisation to the north is largely composed of massive to semi-massive sulphide replacement as well as veining and dissemination within the host polymict breccia-volcaniclastic-siltstone package. Mineralising fluids emanating from syn-volcanic faults in the footwall porphyry moved laterally through porous zones in the host package causing sulphide replacement. The mineralising fluids may have exhaled on the seafloor at some stage based on the minor occurrence of interpreted reworked sulphide clasts and interstitial bands of fine sulphide in some carbonate dominated breccias. Tom's Zone in the south consists of a narrow massive sulphide stratiform zone in reasonable proximity to interpreted footwall feeder pyrite-chalcopyrite stringers. Subsequent, possibly epithermal style precious metal mineralisation is present though its relationship to the earlier, well-documented mineralisation is not yet clear.
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:*	• The archival database carries 211 holes totalling 54,516 metres of drilling. Ardea is presently reviewing this database. • No significant drilling information has been generated by Ardea at this stage.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	• No grade aggregation methods were used for this announcement. For treatment of historical data, see below. • Grades: Grade compositing was by averages above cutoff weighted for sample length. The maximum total inclusion of subgrade was 5m and the maximum consecutive inclusion of subgrade was 3m. Two sets of composites were prepared, one based on downhole cutoff of 1 percent Zinc Equivalent (% ZnE) and the other based on 7% ZnE (potentially economic). No cutting of high grades took place at the aggregation stage because grade composites were used only for the interpretation of the geometry of the mineralisation on cross section and in plan, prior to wireframing, not for Resource estimation. • Metal Equivalent: Being a multi-element deposit in terms of value, some synthesis of the contribution of five metals, Au, Ag, Cu, Pb and Zn to the application of any downhole (or block) cutoff was required. The standard technique of converting grade to $US per grade unit (gram, ounce, percent), adding the dollar contributions then converting back to a single metal equivalent was used, in this case Zn Equivalent percent. Conversion to Au equivalent grams per tonne would have served the same purpose. • For 2016 purposes the question arises: would the use of current metal prices make an appreciable change to the estimated Resource figure via changes to the intercept lengths used to define the geometry of the mineralised lenses? Re-calculation of the project's zinc equivalents and comparison with the 2005 figures give interesting results for intercepts above the 7% ZnE cutoff: the number of intercepts increases by 20 percent (although many lie between 7 and 8% ZnE); the sum of intercept lengths increases 30 percent and the weighted average ZnE grade of intercepts increases marginally, about 7 percent. Much of this lift is carried by the higher Au intercepts, the gold price having increased 300% since 2005. These changes in ZnE suggests that if the same cutoffs are retained (1% and 7% ZnE), a somewhat larger mineralisation could be interpreted at a similar grade. For the purposes of this report it is sufficient to say that there is no ZnE penalty in respect of today's metal prices.
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.*	• Within the Main zone the strongest mineralisation dips about 50° northeast with vertical tails up to the west and down to the east, ie sigmoid. This has resulted in intersection angles effectively normal to the thicker parts of the mineralisation making true widths equal to downhole widths. Where the lens tails up to the west and down to the east, the angles reduce to 40° to 60° with much reduced true widths in the thinnest parts of the mineralised lenses. • In Toms zone to the south of Main zone, dips of mineralisation are vertical or sub-vertical. In the upper levels, angles between hole and mineralisation are around 50° but at deeper levels can be as low as 30° or 20°, substantially reducing true widths. Interpretation of mineralised lenses honours the true widths.

Criteria	JORC Code explanation	Commentary
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• No new drilling to show at this stage. Do be drafted for future releases.
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 Results.*	• The reporting is considered to be balanced and all relevant results have been disclosed for this current phase of exploration.
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.*	• The most material information affecting the resource estimates was the geological logging and core photography carried out by Dr Peter Gregory (Gregory, P., February 2004 and Gregory P., January 2005). This work was completed in time for this estimate (April 2005). Of particular interest were his views on the likely continuity of the massive sulphides as distinct from the enclosing dissemination, veins and stringers, especially as the highest grades are identified with massive or 'semi-massive' sulphides. A number of geologists, including Gregory, are of the opinion that mass flows incorporating carbonate and volcanic debris have disrupted earlier seafloor-deposited massive banded sulphides. This happened in situ without significant transport away from the original depositional site. Thus at say a 1% ZnE cutoff, the mineralisation has good continuity. At a higher cutoff, say 7% ZnE continuity could become an issue. With a drill spacing sometimes 50-100m there is every possibility of a massive sulphide 'bed' being disrupted into a series of "rafts" generally parallel to the axis of the +1% mineralisation.. However, in seeking to model the deposit, statistically massive sulphide seems to be represented in adjacent holes as though it were a continuous or semi-continuous bed. • A number of metallurgical studies have now been made of Lewis Ponds mineralisation. These have centred on optimising the number of concentrates, predicting what percentage of the gold could report to a gravity circuit and whether refractory gold should go to CIL or be paid in the concentrates. These studies have been reviewed by R W Nice (2006).
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• In the 11 years since this estimate was prepared Au and Ag metal prices have trebled and Cu, Pb and Zn effectively doubled. To test the effect, zinc equivalents for Lewis Ponds have been re-calculated using metal prices current at 1 September 2016. Any intercepts with significant Au have increased 30 to 50 percent in terms of ZnE and a significant number which were near below the 7 percent ZnE cutoff are now above the cutoff. The result has been a 20 percent increase in the number of intercepts, a 30 percent increase in the total intercept metreage, and a 6 percent increase in the average dollar value of the intercepts. Thus there could be case at some stage to re-model the geometry of the lenses and to re-estimate a block model. • Also the LPRC34-LPRC41 drilling done in 2011, which had some intersections of interest, with further comparatively short hole drilling, approximately 100m each, could add a useful tonnage and value to the Resource. The structure drilled is on the Torpy's Shaft line and is open south.

Appendix 2 – Drill collar information

Hole_ID	Max_Depth (m)	Hole_Type	Tenement	Prospect	Grid	Northing (mN)	Easting (mE)	RL (mASL)	Dip (°)	Azimuth (°)
ALD0001	259.2	DD	EL5583	Lewis Ponds	MGA94_55	6316540.7	709748.1	822.4	-60	223.9
ALD0002	100.0	DD	EL5583	Lewis Ponds	MGA94_55	6316390.0	709876.0	809.0	-65	223.9
ALD0003	190.6	DD	EL5583	Lewis Ponds	MGA94_55	6316277.8	710057.5	782.0	-55	223.9
ALD0004	230.0	DD	EL5583	Lewis Ponds	MGA94_55	6316123.8	710163.0	812.0	-55	223.9

Appendix 3 – Assay results for ALD0001 and ALD0002

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0001	26.70	28.00	1.30	A05000	0.08	<0.01	19.7	0.01	0.01	3.18	0.01	2.23	<5	812	1080
ALD0001	28.00	29.30	1.30	A05001	0.04	<0.01	4.9	0.01	0.01	2.89	0.04	0.46	<5	300	220
ALD0001	29.30	30.28	0.98	A05002	0.09	<0.01	1.6	0.01	0.02	4.20	<0.01	2.68	<5	1240	1260
ALD0001	30.28	31.40	1.12	A05003	0.05	<0.01	1.1	0.00	0.01	2.86	0.01	2.52	<5	1210	1150
ALD0001	31.40	32.90	1.50	A05004	0.05	<0.01	1.3	0.01	0.01	2.81	<0.01	2.22	<5	1340	1030
ALD0001	32.90	34.40	1.50	A05005	0.05	<0.01	0.7	0.00	0.01	2.86	<0.01	2.32	5	1070	1080
ALD0001	34.40	35.90	1.50	A05006	0.05	<0.01	0.5	0.01	0.01	2.91	<0.01	2.06	<5	978	990
ALD0001	35.90	37.16	1.26	A05007	0.07	<0.01	0.9	0.01	0.01	3.45	<0.01	2.62	<5	877	1430
ALD0001	37.16	38.70	1.54	A05008	0.21	0.07	6.2	0.06	0.00	6.85	0.02	2.04	32	765	1240
ALD0001	38.70	39.74	1.04	A05009	0.03	0.05	1.3	0.01	0.01	6.32	3.58	0.54	20	1345	330
ALD0001	39.74	41.60	1.86	A05010	0.08	0.03	1.6	0.02	0.01	7.26	3.36	0.02	5	1985	10
ALD0001	41.60	42.60	1.00	A05011	3.97	0.40	62.8	2.02	0.08	19.35	10.00	0.12	51	1655	20
ALD0001	42.60	43.60	1.00	A05012	7.75	1.30	83.2	5.89	0.24	24.30	10.00	0.18	84	1125	10
ALD0001	43.60	44.50	0.90	A05013	1.81	0.27	15.2	0.72	0.04	12.70	9.95	0.51	32	1265	30
ALD0001	44.50	45.40	0.90	A05014	1.54	0.26	14.8	0.66	0.04	12.70	9.75	0.42	41	1275	20
ALD0001	45.40	46.50	1.10	A05015	0.58	0.01	1.1	0.01	0.03	9.22	4.97	0.10	11	1205	20
ALD0001	46.50	47.60	1.10	A05016	0.28	0.05	1.5	0.01	0.02	8.67	4.72	0.18	10	1020	70
ALD0001	47.60	48.80	1.20	A05019	0.09	0.09	1.5	0.02	0.01	5.57	2.16	0.81	5	1000	420
ALD0001	48.80	50.00	1.20	A05020	0.24	0.03	3.3	0.05	0.02	7.43	4.05	0.40	8	1230	220
ALD0001	50.00	51.15	1.15	A05021	1.29	0.67	34.5	0.64	0.19	31.40	10.00	1.00	46	258	100
ALD0001	51.15	51.70	0.55	A05022	2.04	0.28	30.3	0.69	0.13	6.72	5.54	1.65	34	711	180
ALD0001	51.70	53.00	1.30	A05023	0.20	0.05	3.4	0.05	0.02	4.06	2.64	3.14	7	486	380
ALD0001	53.00	54.50	1.50	A05024	0.03	0.04	0.8	0.00	0.01	3.16	1.96	3.07	6	445	670
ALD0001	54.50	56.00	1.50	A05026	0.02	0.04	<0.5	0.00	0.00	3.80	2.20	2.70	7	605	520
ALD0001	56.00	57.50	1.50	A05027	0.01	0.02	0.5	0.00	0.00	2.64	1.56	3.14	7	388	1110
ALD0001	57.50	59.00	1.50	A05028	0.98	0.09	11.9	0.24	0.07	4.43	3.11	2.36	15	760	280
ALD0001	59.00	60.50	1.50	A05029	0.54	0.08	11.1	0.20	0.05	4.50	3.44	2.31	11	599	280
ALD0001	60.50	62.04	1.54	A05030	0.14	0.03	2.1	0.04	0.01	2.46	1.25	2.84	6	437	1310
ALD0001	62.04	63.50	1.46	A05031	1.41	0.06	19.1	0.51	0.08	4.68	3.55	1.93	17	757	250
ALD0001	63.50	64.60	1.10	A05032	0.22	0.02	0.8	0.01	0.01	3.94	2.61	1.86	5	594	290
ALD0001	64.60	65.60	1.00	A05033	1.33	0.31	30.9	0.50	0.59	7.62	6.34	0.83	25	1150	130
ALD0001	65.60	66.60	1.00	A05034	1.56	0.10	27.8	0.74	0.20	6.02	4.59	1.77	32	982	150
ALD0001	66.60	67.60	1.00	A05035	2.12	0.24	25.7	0.63	0.27	5.98	5.54	0.56	27	1190	30
ALD0001	67.60	68.40	0.80	A05036	2.59	0.16	35.4	0.95	0.21	6.36	6.15	0.68	43	1460	50
ALD0001	68.40	68.80	0.40	A05037	0.14	0.01	3.4	0.06	0.02	0.57	0.38	0.07	14	4150	20
ALD0001	68.80	69.80	1.00	A05039	1.23	0.10	18.5	0.37	0.11	4.91	4.22	0.78	23	869	210
ALD0001	69.80	70.80	1.00	A05040	1.58	0.11	25.5	0.53	0.13	4.79	3.89	1.28	31	968	340
ALD0001	70.80	71.72	0.92	A05041	2.32	0.22	44.7	0.83	0.19	5.74	5.00	1.06	59	1280	300
ALD0001	71.72	72.93	1.21	A05042	0.27	0.02	4.9	0.08	0.02	1.92	0.74	0.42	24	4040	30
ALD0001	72.93	74.00	1.07	A05043	3.58	0.41	56.4	1.12	0.31	6.99	7.52	1.10	68	1390	110
ALD0001	74.00	75.00	1.00	A05044	2.09	0.38	42.8	0.72	0.19	6.26	5.99	1.42	46	1050	140
ALD0001	75.00	76.00	1.00	A05046	1.08	0.15	23.4	0.38	0.11	5.21	4.33	2.04	24	810	160
ALD0001	76.00	77.00	1.00	A05047	1.17	0.26	31.4	0.41	0.14	5.39	4.95	1.80	36	1670	140
ALD0001	77.00	78.00	1.00	A05048	1.07	0.34	31.1	0.34	0.12	5.84	4.99	1.83	36	1270	200
ALD0001	78.00	78.98	0.98	A05049	1.75	0.34	48.8	0.63	0.18	5.82	5.74	2.60	51	778	290
ALD0001	78.98	79.80	0.82	A05050	0.06	<0.01	1.7	0.02	0.01	0.37	0.15	0.11	5	1500	50
ALD0001	79.80	80.80	1.00	A05051	1.12	0.07	28.7	0.50	0.19	4.86	3.37	1.36	29	1180	110
ALD0001	80.80	81.80	1.00	A05052	1.24	0.13	28.2	0.53	0.17	6.81	5.49	1.65	36	835	290
ALD0001	81.80	82.80	1.00	A05053	4.80	0.43	79.4	1.61	0.37	8.36	9.84	1.87	85	622	320
ALD0001	82.80	83.80	1.00	A05054	2.33	0.38	61.7	0.92	0.18	6.82	7.50	2.21	79	766	310
ALD0001	83.80	84.85	1.05	A05055	0.48	0.12	14.4	0.20	0.06	4.96	5.03	2.80	18	250	250
ALD0001	84.85	85.65	0.80	A05056	1.19	0.11	18.2	0.28	0.10	4.30	3.97	2.41	28	791	190
ALD0001	85.65	86.27	0.62	A05059	0.56	0.03	7.3	0.14	0.05	3.04	2.54	0.42	13	1450	120
ALD0001	86.27	87.20	0.93	A05060	0.95	0.09	12.7	0.27	0.05	4.70	4.31	0.17	17	1300	20
ALD0001	87.20	88.20	1.00	A05061	0.58	0.04	11.9	0.20	0.05	2.08	1.42	0.17	15	1580	30
ALD0001	88.20	89.20	1.00	A05062	0.53	0.02	8.3	0.14	0.05	1.81	1.42	0.09	14	1810	40
ALD0001	89.20	90.21	1.01	A05063	0.08	<0.01	1.4	0.03	0.00	0.81	0.30	0.03	<5	1520	30
ALD0001	90.21	91.00	0.79	A05064	1.79	0.23	43.4	0.57	0.22	18.20	10.00	0.49	61	406	20
ALD0001	91.00	92.00	1.00	A05065	2.08	0.30	41.2	0.55	0.29	17.35	10.00	2.26	52	351	460
ALD0001	92.00	92.97	0.97	A05066	1.59	0.39	37.8	0.60	0.17	15.50	10.00	0.24	56	712	60
ALD0001	92.97	94.10	1.13	A05067	0.26	0.02	9.3	0.12	0.03	2.49	1.16	0.58	30	1090	120
ALD0001	94.10	95.29	1.19	A05069	0.64	0.06	17.4	0.26	0.06	2.50	1.71	0.41	40	1460	50
ALD0001	95.29	96.45	1.16	A05070	0.65	0.03	11.1	0.21	0.04	2.31	1.20	0.56	20	1870	70
ALD0001	96.45	97.60	1.15	A05071	0.18	0.01	9.5	0.05	0.07	1.02	0.42	0.10	19	1610	40
ALD0001	97.60	98.70	1.10	A05072	0.30	0.02	5.3	0.11	0.01	1.52	0.90	0.15	11	1710	50
ALD0001	98.70	99.80	1.10	A05073	0.32	0.04	5.1	0.09	0.01	1.06	0.35	0.14	16	1590	40
ALD0001	99.80	100.90	1.10	A05074	0.50	<0.01	7.1	0.14	0.02	1.35	0.62	0.09	14	1850	20
ALD0001	100.90	102.00	1.10	A05075	0.47	0.02	10.5	0.15	0.04	1.80	1.11	0.30	33	1770	40
ALD0001	102.00	103.10	1.10	A05076	0.13	<0.01	1.8	0.04	0.01	0.72	0.21	0.26	9	1970	70

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0001	103.10	104.20	1.10	A05077	0.33	0.01	5.3	0.09	0.03	1.78	0.95	0.90	14	1650	370
ALD0001	104.20	105.30	1.10	A05079	0.18	0.01	4.2	0.04	0.01	0.91	0.38	0.28	13	2070	120
ALD0001	105.30	106.40	1.10	A05080	0.31	<0.01	5.4	0.09	0.01	1.13	0.31	0.07	17	2350	30
ALD0001	106.40	107.50	1.10	A05081	0.04	<0.01	0.8	0.01	0.00	0.57	0.07	0.08	<5	1920	40
ALD0001	107.50	108.60	1.10	A05082	0.03	<0.01	0.7	0.01	0.00	0.72	0.11	0.07	<5	2200	50
ALD0001	108.60	109.70	1.10	A05083	0.01	<0.01	<0.5	0.00	0.00	0.54	<0.01	0.08	<5	2190	50
ALD0001	109.70	110.76	1.06	A05084	0.02	<0.01	0.6	0.01	0.00	0.46	0.01	0.05	<5	1820	30
ALD0001	110.76	111.80	1.04	A05085	4.16	0.33	127.0	2.47	0.41	3.15	4.25	0.90	139	1620	350
ALD0001	111.80	112.80	1.00	A05086	4.75	0.47	119.0	2.19	0.43	6.72	8.77	1.95	146	1020	790
ALD0001	112.80	113.80	1.00	A05087	4.26	0.35	89.2	1.48	0.38	6.70	8.53	1.74	95	734	210
ALD0001	113.80	114.80	1.00	A05088	3.13	0.33	71.5	1.16	0.22	5.80	6.81	0.94	91	1310	100
ALD0001	114.80	115.80	1.00	A05089	0.37	0.09	13.3	0.22	0.04	3.59	2.46	1.57	19	925	680
ALD0001	115.80	116.90	1.10	A05091	1.06	0.11	22.4	0.30	0.08	4.65	3.74	1.77	34	735	210
ALD0001	116.90	118.00	1.10	A05092	0.46	0.76	9.4	0.13	0.04	3.99	3.38	2.13	15	1090	200
ALD0001	118.00	119.00	1.00	A05093	0.37	0.01	6.5	0.09	0.01	1.37	0.68	0.20	10	3150	70
ALD0001	119.00	120.00	1.00	A05094	0.40	0.01	3.4	0.10	0.01	1.28	0.57	0.19	<5	2760	50
ALD0001	120.00	121.00	1.00	A05095	0.19	0.02	4.1	0.07	0.01	1.05	0.46	0.18	7	3480	50
ALD0001	121.00	121.93	0.93	A05096	0.21	<0.01	2.9	0.07	0.01	0.80	0.41	0.11	8	1960	40
ALD0001	121.93	122.75	0.82	A05097	3.22	0.08	120.0	1.69	0.05	6.09	8.23	0.38	272	1550	170
ALD0001	122.75	123.52	0.77	A05099	1.10	0.12	17.1	0.32	0.06	1.93	1.77	0.46	32	1580	260
ALD0001	123.52	125.24	1.72	A05100	0.29	0.02	4.2	0.08	0.02	0.62	0.55	0.18	11	640	100
ALD0001	125.24	126.30	1.06	A05101	0.51	0.05	8.6	0.17	0.03	1.12	1.03	0.23	18	971	120
ALD0001	126.30	127.40	1.10	A05102	0.42	0.03	8.4	0.13	0.03	1.00	0.75	0.16	18	1320	90
ALD0001	127.40	128.50	1.10	A05103	1.08	0.13	19.7	0.29	0.10	2.23	2.05	0.24	33	1410	110
ALD0001	128.50	129.60	1.10	A05104	1.09	0.09	19.1	0.27	0.06	1.92	1.99	0.48	32	1170	160
ALD0001	129.60	130.60	1.00	A05105	0.82	0.32	12.2	0.24	0.05	1.46	1.45	0.24	19	951	120
ALD0001	130.60	131.67	1.07	A05106	1.06	0.09	14.2	0.26	0.06	1.96	1.98	0.21	26	2160	90
ALD0001	131.67	132.70	1.03	A05107	0.27	<0.01	3.6	0.08	0.01	0.89	0.47	0.10	7	1900	30
ALD0001	132.70	133.80	1.10	A05108	0.67	0.04	13.0	0.19	0.04	1.22	0.84	0.08	49	1830	30
ALD0001	133.80	134.90	1.10	A05109	0.31	0.04	7.2	0.09	0.02	0.79	0.37	0.09	33	1350	50
ALD0001	134.90	136.00	1.10	A05110	0.60	0.02	7.2	0.17	0.03	1.39	1.13	0.49	24	1230	340
ALD0001	136.00	137.00	1.00	A05111	0.65	0.02	11.2	0.16	0.03	1.05	0.67	0.02	52	1580	20
ALD0001	137.00	138.00	1.00	A05112	0.32	0.01	4.8	0.13	0.01	0.70	0.28	0.01	7	1320	20
ALD0001	138.00	139.10	1.10	A05113	0.11	0.01	2.1	0.05	0.01	0.66	0.16	0.01	<5	1370	10
ALD0001	139.10	140.20	1.10	A05114	0.02	0.02	<0.5	0.01	0.00	0.55	<0.01	0.02	6	1270	20
ALD0001	140.20	141.30	1.10	A05115	0.96	0.05	27.8	0.25	0.08	1.16	0.65	0.02	309	1290	20
ALD0001	141.30	142.40	1.10	A05116	0.03	0.01	0.8	0.01	0.00	0.49	0.01	0.02	7	1260	20
ALD0001	142.40	143.50	1.10	A05117	0.01	0.01	<0.5	0.00	0.00	0.25	<0.01	0.03	5	1290	30
ALD0001	143.50	144.50	1.00	A05119	0.53	0.07	7.0	0.15	0.03	2.93	2.16	0.03	13	1670	20
ALD0001	144.50	145.85	1.35	A05120	1.09	0.08	15.8	0.34	0.07	4.07	3.18	0.14	27	2540	80
ALD0001	145.85	146.77	0.92	A05121	0.20	0.02	4.7	0.09	0.02	2.49	0.64	3.32	7	1590	1840
ALD0001	146.77	148.20	1.43	A05122	0.03	<0.01	1.0	0.02	0.01	2.72	0.99	1.90	7	837	1000
ALD0001	148.20	149.70	1.50	A05123	0.08	0.15	2.7	0.05	0.01	3.61	1.46	2.31	<5	834	910
ALD0001	149.70	151.17	1.47	A05124	0.01	<0.01	<0.5	0.01	0.00	3.21	0.66	2.49	5	625	1100
ALD0001	151.17	152.50	1.33	A05125	0.01	<0.01	<0.5	0.01	0.01	3.32	0.84	2.32	5	590	980
ALD0001	152.50	154.50	2.00	A05126	0.01	0.02	<0.5	0.01	0.01	3.54	0.74	2.77	<5	521	1170
ALD0001	154.50	156.50	2.00	A05127	0.01	0.06	<0.5	0.00	0.01	3.16	0.49	2.50	<5	481	1010
ALD0001	156.50	158.50	2.00	A05128	0.01	0.82	<0.5	0.00	0.00	3.27	0.40	2.47	<5	508	980
ALD0001	158.50	160.50	2.00	A05129	0.01	0.47	<0.5	0.00	0.00	3.21	0.45	2.34	<5	556	890
ALD0001	160.50	162.50	2.00	A05130	0.01	0.14	<0.5	0.00	0.00	3.33	0.24	2.32	<5	581	860
ALD0001	162.50	164.50	2.00	A05131	0.01	0.02	<0.5	0.01	0.00	3.49	0.33	2.36	<5	579	840
ALD0001	164.50	166.50	2.00	A05132	0.01	0.19	<0.5	0.01	0.00	3.37	0.30	2.21	<5	611	780
ALD0001	166.50	168.50	2.00	A05133	0.01	0.04	<0.5	0.01	0.00	2.85	0.21	1.93	<5	611	670
ALD0001	168.50	170.50	2.00	A05134	0.02	0.03	<0.5	0.01	0.01	3.61	0.24	2.30	<5	1240	780
ALD0001	170.50	172.50	2.00	A05135	0.02	<0.01	<0.5	0.01	0.02	3.40	0.25	2.12	<5	1400	680
ALD0001	172.50	174.50	2.00	A05136	0.01	0.01	<0.5	0.01	0.00	3.37	0.23	2.03	6	1230	640
ALD0001	174.50	176.50	2.00	A05137	0.01	0.01	<0.5	0.01	0.00	3.28	0.15	2.20	<5	1850	670
ALD0001	176.50	178.00	1.50	A05139	0.02	0.03	0.5	0.01	0.01	3.64	0.85	1.66	<5	1460	500
ALD0001	178.00	180.17	2.17	A05140	0.01	<0.01	<0.5	0.01	0.01	3.67	0.18	2.19	<5	1570	650
ALD0001	180.17	181.53	1.36	A05141	0.00	<0.01	<0.5	0.00	0.00	0.22	0.02	0.14	<5	1170	40
ALD0001	181.53	183.50	1.97	A05142	0.01	0.01	<0.5	0.01	0.00	3.09	0.34	2.13	<5	1420	610
ALD0001	183.50	185.50	2.00	A05143	0.05	0.09	<0.5	0.01	0.01	3.30	0.24	2.17	5	1120	620
ALD0001	185.50	187.50	2.00	A05144	0.01	0.01	0.5	0.02	0.01	3.38	0.20	2.15	<5	751	610
ALD0001	187.50	189.38	1.88	A05145	0.01	<0.01	<0.5	0.00	0.00	2.08	0.18	1.34	<5	1110	380
ALD0001	189.38	191.20	1.82	A05146	0.01	0.06	<0.5	0.00	0.01	3.23	0.24	2.22	<5	580	620
ALD0001	191.20	193.20	2.00	A05147	0.07	0.02	0.8	0.02	0.01	2.93	0.33	1.96	<5	1220	540
ALD0001	193.20	195.20	2.00	A05148	0.08	0.15	1.6	0.05	0.01	2.83	0.45	1.93	5	1240	540
ALD0001	195.20	197.20	2.00	A05149	0.01	<0.01	<0.5	0.01	0.00	2.85	0.11	2.17	<5	915	620
ALD0001	197.20	199.18	1.98	A05150	0.01	0.01	<0.5	0.01	0.00	2.76	0.02	1.92	<5	994	590
ALD0001	199.18	201.20	2.02	A05151	0.00	<0.01	<0.5	0.00	0.00	0.84	<0.01	0.01	<5	4080	10
ALD0001	201.20	203.20	2.00	A05152	0.00	<0.01	<0.5	0.00	0.00	0.45	<0.01	0.01	<5	1670	<10
ALD0001	203.20	205.20	2.00	A05153	0.00	<0.01	<0.5	0.00	0.00	0.61	<0.01	0.01	<5	1340	<10
ALD0001	205.20	207.20	2.00	A05154	0.00	0.01	<0.5	0.00	0.00	0.84	<0.01	0.01	<5	1030	<10
ALD0001	207.20	209.20	2.00	A05155	0.00	<0.01	<0.5	0.00	0.00	0.52	<0.01	<0.01	<5	945	<10
ALD0001	209.20	211.20	2.00	A05156	0.00	0.01	<0.5	0.00	0.00	0.52	<0.01	<0.01	<5	917	<10
ALD0001	211.20	213.20	2.00	A05157	0.00	<0.01	<0.5	0.00	0.00	0.60	<0.01	<0.01	<5	1000	<10

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0002	29.00	30.00	1.00	A05159	0.12	0.09	3.1	0.04	0.01	2.93	0.01	2.72	<5	270	1200
ALD0002	30.00	31.00	1.00	A05160	0.13	0.21	1.5	0.03	0.01	3.01	0.01	2.37	<5	263	1090
ALD0002	31.00	32.00	1.00	A05162	0.15	0.12	2.1	0.04	0.01	3.31	0.02	2.60	<5	269	1230
ALD0002	32.00	33.00	1.00	A05163	0.12	0.04	1.5	0.05	0.01	3.18	0.01	2.59	5	266	1270
ALD0002	33.00	34.00	1.00	A05164	0.15	0.03	3.5	0.10	0.01	3.63	0.01	2.45	10	242	1220
ALD0002	34.00	36.00	2.00	A05165	0.11	0.26	3.5	0.07	0.01	3.17	0.01	2.35	9	200	1200
ALD0002	36.00	38.00	2.00	A05166	0.14	0.21	5.3	0.08	0.02	4.02	0.06	2.76	25	263	1440
ALD0002	38.00	40.00	2.00	A05167	0.16	0.06	1.1	0.06	0.00	3.92	0.01	2.29	55	301	1230
ALD0002	40.00	42.00	2.00	A05168	0.22	0.09	1.5	0.09	0.01	3.15	0.15	2.07	22	278	1130
ALD0002	42.00	43.60	1.60	A05169	0.15	0.14	1.0	0.05	0.00	2.60	0.53	2.13	<5	224	1070
ALD0002	43.60	45.70	2.10	A05170	1.24	0.32	28.7	0.56	0.10	4.67	2.83	2.01	35	357	320
ALD0002	45.70	47.45	1.75	A05171	1.12	0.29	22.9	0.44	0.09	4.18	2.91	2.84	33	275	290
ALD0002	47.45	48.50	1.05	A05172	9.97	2.36	232.0	4.40	0.23	29.00	10.00	0.18	406	204	20
ALD0002	48.50	49.60	1.10	A05173	11.90	5.62	239.0	4.47	0.40	32.00	10.00	0.01	429	149	10
ALD0002	49.60	50.65	1.05	A05174	8.98	1.33	144.0	4.46	0.30	27.80	10.00	0.17	152	306	20
ALD0002	50.65	54.20	3.55	A05175	6.85	0.18	25.3	0.45	0.11	3.70	3.64	0.54	78	1535	210
ALD0002	54.20	54.76	0.56	A05176	4.34	0.74	91.0	1.63	0.45	7.40	8.77	0.68	129	1280	60
ALD0002	54.76	55.74	0.98	A05178	0.38	0.05	66.7	0.14	0.10	0.61	0.61	0.05	554	977	30
ALD0002	55.74	56.60	0.86	A05179	6.40	1.53	134.0	2.55	0.41	7.62	10.00	0.55	294	1140	130
ALD0002	56.60	57.50	0.90	A05180	5.66	0.39	129.0	1.95	0.53	7.97	10.00	0.25	239	961	30
ALD0002	57.50	58.12	0.62	A05182	0.06	0.01	2.0	0.02	0.00	0.60	0.11	0.02	5	1655	30
ALD0002	58.12	58.93	0.81	A05183	0.92	0.05	23.5	0.40	0.06	4.53	5.06	0.45	55	1290	170
ALD0002	58.93	60.00	1.07	A05184	1.38	0.11	27.0	0.54	0.11	2.80	2.41	0.16	37	949	20
ALD0002	60.00	61.07	1.07	A05186	0.46	0.04	11.0	0.21	0.05	1.88	0.98	0.05	14	877	10
ALD0002	61.07	62.56	1.49	A05187	0.02	<0.01	<0.5	0.01	0.00	0.39	0.02	<0.01	<5	1185	10
ALD0002	62.56	63.92	1.36	A05188	0.24	0.03	4.3	0.08	0.02	2.26	1.32	0.07	6	844	20
ALD0002	63.92	64.90	0.98	A05189	0.05	<0.01	1.2	0.02	0.00	0.59	0.13	0.01	5	1675	10
ALD0002	64.90	65.85	0.95	A05190	0.05	0.01	11.8	0.03	0.04	1.06	0.15	0.01	86	1040	10
ALD0002	65.85	67.06	1.21	A05191	0.03	<0.01	1.0	0.02	0.00	1.08	0.21	0.01	<5	1100	10
ALD0002	67.06	69.00	1.94	A05192	0.01	<0.01	<0.5	0.00	0.00	0.28	<0.01	0.02	<5	1505	20
ALD0002	69.00	71.00	2.00	A05193	0.01	0.01	<0.5	0.00	0.00	0.25	<0.01	0.01	<5	1200	10
ALD0002	71.00	73.00	2.00	A05194	0.01	<0.01	<0.5	0.00	0.00	0.65	0.17	0.06	<5	3350	20
ALD0002	73.00	75.00	2.00	A05195	0.01	<0.01	<0.5	0.00	0.00	0.56	0.03	0.05	<5	2050	20
ALD0002	75.00	77.00	2.00	A05196	0.02	0.01	0.6	0.01	0.00	0.56	0.09	0.01	<5	3210	50
ALD0002	77.00	78.00	1.00	A05197	0.01	<0.01	<0.5	0.00	0.00	0.89	0.10	0.01	<5	1495	10
ALD0002	78.00	78.76	0.76	A05198	0.01	<0.01	<0.5	0.00	0.00	1.33	0.39	0.05	<5	1415	20
ALD0002	78.76	79.80	1.04	A05199	0.01	0.02	<0.5	0.00	0.00	2.30	1.73	2.14	<5	226	440
ALD0002	79.80	80.90	1.10	A05200	0.00	0.02	<0.5	0.00	0.00	2.16	1.86	3.46	<5	135	330
ALD0002	80.90	82.00	1.10	A05202	0.00	0.03	<0.5	0.00	0.00	2.46	2.15	3.32	<5	170	290
ALD0002	82.00	84.00	2.00	A05203	0.03	0.03	0.7	0.03	0.00	2.77	2.12	3.64	<5	460	410
ALD0002	84.00	86.00	2.00	A05204	0.24	0.03	3.2	0.12	0.02	2.68	2.35	3.78	<5	599	340
ALD0002	86.00	88.00	2.00	A05205	0.03	0.02	0.6	0.01	0.00	2.36	2.07	3.79	5	555	300
ALD0002	88.00	90.00	2.00	A05206	0.01	0.02	<0.5	0.00	0.00	2.38	1.58	3.68	<5	858	430
ALD0002	90.00	92.00	2.00	A05207	0.02	0.01	<0.5	0.00	0.00	3.59	1.64	3.02	<5	1065	400
ALD0002	92.00	94.00	2.00	A05208	0.02	0.01	0.8	0.01	0.00	2.70	1.06	3.29	<5	1310	920
ALD0002	94.00	96.00	2.00	A05209	0.02	0.02	0.9	0.01	0.00	2.45	1.29	3.28	<5	1345	760
ALD0002	96.00	98.00	2.00	A05210	0.19	0.02	2.3	0.02	0.00	2.64	1.23	3.23	<5	904	800
ALD0002	98.00	100.00	2.00	A05211	0.05	0.03	1.4	0.01	0.00	2.96	1.39	2.63	6	1140	510

Ardea Resources Limited

Appendix 4 – Geometallurgical logging

ALD0001 Intercept Summary

From (m)	To (m)	Width (m)	ZnEq (%)	AuEq (g/t)	Zn (%)	Au (g/t)	Ag (g/t)	Pb (%)	Cu (%)	Lithology
0	41.6	41.6								Siltstone, white quartz veining, sericite-altered, strongly weathered (assays awaited)
41.60	**51.70**	**10.10**	**3.54**	**2.11**	**1.85**	**0.33**	**23.6**	**1.03**	**0.08**	Volcaniclastic upper basaltic crystal sandstone and lower dacitic mudstone, 20-300mm foliation-concordant bands massive sphal-py, qtz veining, intense pyrite-chlorite alteration
51.70	64.60	12.90	0.69	0.41	0.40	0.05	5.6	0.12	0.03	"Spotted" volcaniclastic andesitic sandstone ("quartz eye tuff"), disseminated pyrite-sphalerite, silica-sericite-chlorite alteration
64.60	**83.80**	**19.20**	**3.33**	**1.98**	**1.71**	**0.21**	**33.4**	**0.61**	**0.19**	Dacitic polymict brecc (5-40mm frags white silica, chlorite fiamme, "qtz eye tuff"), andes xtal sst, chlor mudstone, wh dolomite brecc bands, 1-10mm py-sphal stringers, chlor-py alter, shear QV
83.80	90.21	6.41	1.07	0.63	0.60	0.06	10.6	0.18	0.05	Interbanded dolomite breccia and chlor-py altered volcaniclastic Sst
90.21	**92.97**	**2.76**	**3.73**	**2.25**	**1.82**	**0.31**	**40.6**	**0.57**	**0.23**	2-10mm laminated bands sphal-py in volcaniclastic dacitic & polymict crystal Sst, strong py-chlor alteration (possibly "stratiform" sulphides - VMS?)
92.97	110.76	17.79	0.49	0.29	0.28	0.01	6.0	0.09	0.02	Light grey dolomite breccia, diffuse white carbonate veining, 1-10mm angular chlorite fragments & porph dacite fragments, chlorate alteration bands
110.76	**114.80**	**4.04**	**8.21**	**4.90**	**4.08**	**0.37**	**101.9**	**1.83**	**0.36**	Volcaniclastic andesitc crystal Sst & polymict brecc, frags dark green chlor fiamme & reworked Sst, pink-brown sphal-pyrite as matrix to fragments and as 1-100mm foliation-concordant bands
114.80	131.67	16.87	1.52	0.91	0.79	0.12	17.8	0.28	0.04	Dolomitic breccia, subordinate calc Mudst and intense sheared chlorite "partings", pk-bn sphal and angular dolomite in partings (correlates with "limestone quarry" west of Main Shaft)
131.67	145.85	14.18	0.75	0.43	0.44	0.03	7.8	0.13	0.03	Dolomitic breccia as above
145.85	199.18	53.33								Grey volcaniclastic andesitic Mudst, chlorite lenticles, 1-30mm bands chloritic xtal Sst, pervasive silica-sericite-chlorite alteration
199.18	243.32	44.14								Grey dolomitic limestone, diffuse white carbonate veining, minor bands chloritic crystal Sst
243.32	247.15	3.83								SHEAR ZONE Chloritic Mudstone, intense chlorite shearing, qtz-carb veining
247.15	259.20	12.05 EOH								"White spotted" grey crystal Sst ("qtz eye tuff"), correlates with western hilltop "qtz eye tuff"

Ardea Resources Limited

ALD0002 Intercept Summary

From (m)	To (m)	Width (m)	ZnEq (%)	AuEq (g/t)	Zn (%)	Au (g/t)	Ag (g/t)	Pb (%)	Cu (%)	Lithology
0	43.60	43.60								Volcaniclastic andesitic Mudstone, sericite-altered, strongly weathered (gold target, assays awaited)
43.60	**60.00**	**16.40**	**8.53**	**5.07**	**4.73**	**0.86**	**75.9**	**1.44**	**0.19**	Volcaniclastic dacitic mudstone with minor dolomitic bands, 20-300mm foliation-concordant bands massive vuggy sphal-py, intense pyrite-chlorite alteration SUPERGENE SULPHIDE
60.00	78.76	18.76								Massive cryptocrystalline dolomite
78.76	100.00	21.24								Volcaniclastic andesitic crystal sandstone, subordinate polymict breccia bands with chloritic fiamme and porphyry fragments, very stong chlorite-sericite-pyrite alteration