Ardea Resources Limited

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ASX Symbol

ARL

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Shares
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Unlisted options
12,310,022

ABN 30 614 289 342

Feasibility commences on large mineralised system at Lewis Ponds

With all drill results received, feasibility study metallurgical program starts on a potential open pit bulk tonnage zinc-gold-silver operation

- An extensive zone of zinc, gold, silver and lead mineralisation with intense chlorite-pyrite alteration has been confirmed by drilling of the four PFS "metallurgical" core holes at Lewis Ponds
- Intercept from hole ALD0003 Stringer Zone:
  - **60.88m at 3.00 % Zn equiv.**[1] or **1.80 g/t Au equiv.**[2] (1.54 % Zn, 0.33 g/t Au, 26.7 g/t Ag, 0.54 % Pb, and 0.10 % Cu) from 100.35m, associated with sphalerite-pyrite stringers
- Intercept from hole ALD0004 Alteration Zone:
  - **5.90m at 1.62 % Zn equiv.** or **0.97 g/t Au equiv.** (0.82 % Zn, 0.08 g/t Au, 21.1 g/t Ag, 0.39 % Pb, and 0.04 % Cu) from 92.06 m, associated with intense chlorite-sericite alteration
- Within the conceptual Lewis Ponds pit design, the Stringer Zone is 25-50 m horizontal width, dipping 70-90^0 east and open at depth
- High grade lenses suited to selective mining average 3.5 % Zn equiv diluted and are separated by sub-grade internal waste grading 0.5-1.0 % Zn equiv
- The next PFS step is metallurgical testing and flowsheet design

[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 (Figure 1) from the final two “metallurgical” core holes at Lewis Ponds in NSW.

The successful identification of this gold, silver, zinc and lead mineralisation confirms the Company’s development model that the Lewis Ponds deposit has affinities with the major deposits of the Lachlan Fold Belt region (in terms of its bulk tonnage potential).

Figure 1 – Mineralisation in ALD0003 (119.27-120.48m, 1.21m at 14.29% Zn equiv), typical intense chlorite-pyrite alteration associated with Stringer Zone mineralisation

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 mineralised centres. Several of Ardea’s projects, including notably Lewis Ponds, are located within the LTZ.

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	Previous report, oxide zone pending
ALD0002	10800	60	270	100.0	Previous report, oxide zone pending
ALD0003	10600	60	270	190.6	Reported here, oxide zone pending
ALD0004	10400	60	270	230.0	Reported here, oxide zone pending

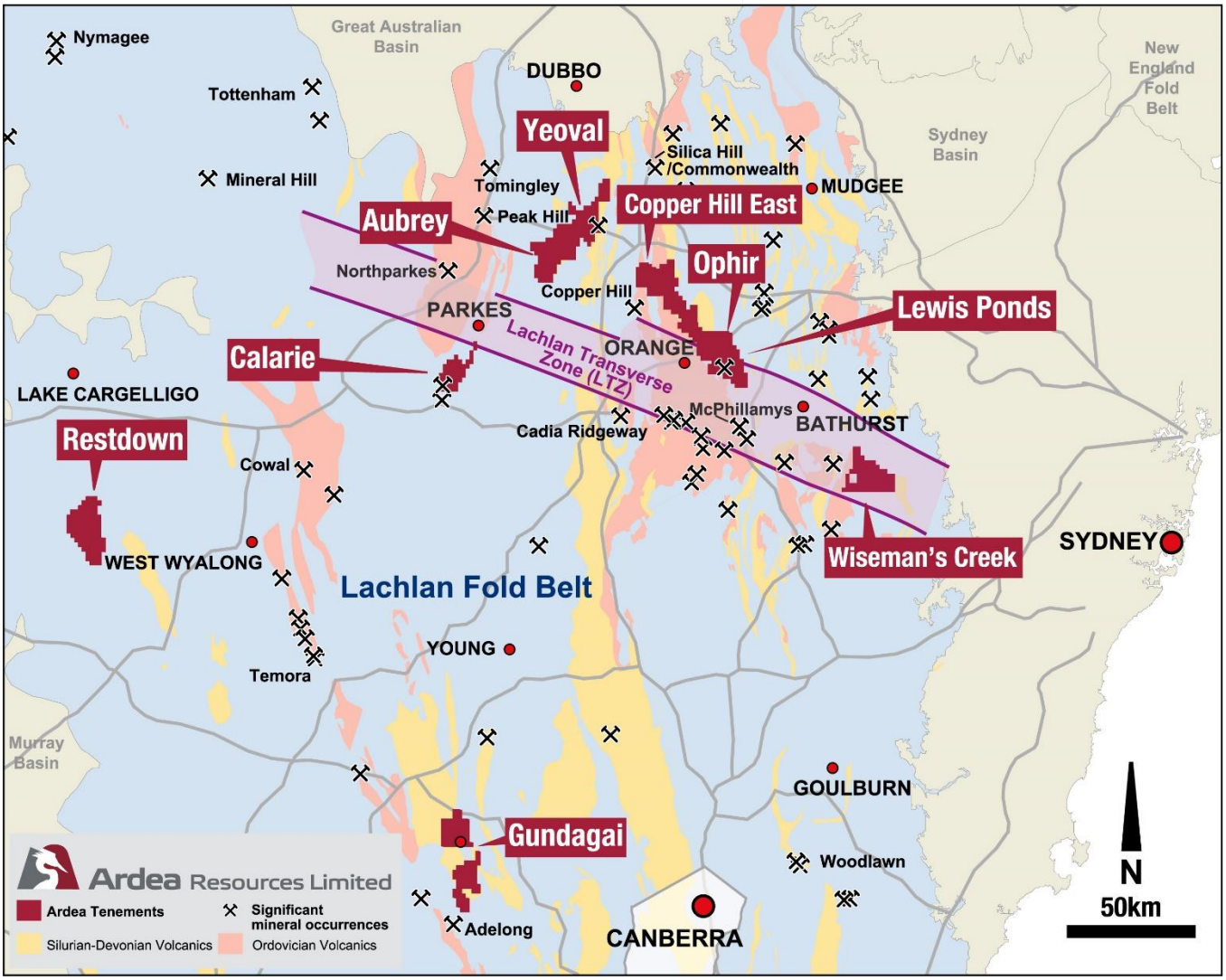

Figure 2 – Map of Ardea's projects in the Lachlan Fold Belt of NSW. Lewis Ponds is, like many of the region's major deposits, located in the highly prospective Lachlan Transverse Zone.

Using a cut-off grade of 1.5% zinc equivalent (anticipated approximate open pit C1 cost break-even grade), mineralised intercepts have been defined for a broad stringer sulphide style (typical of the major bulk tonnage deposits of the Lachlan Fold Belt).

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

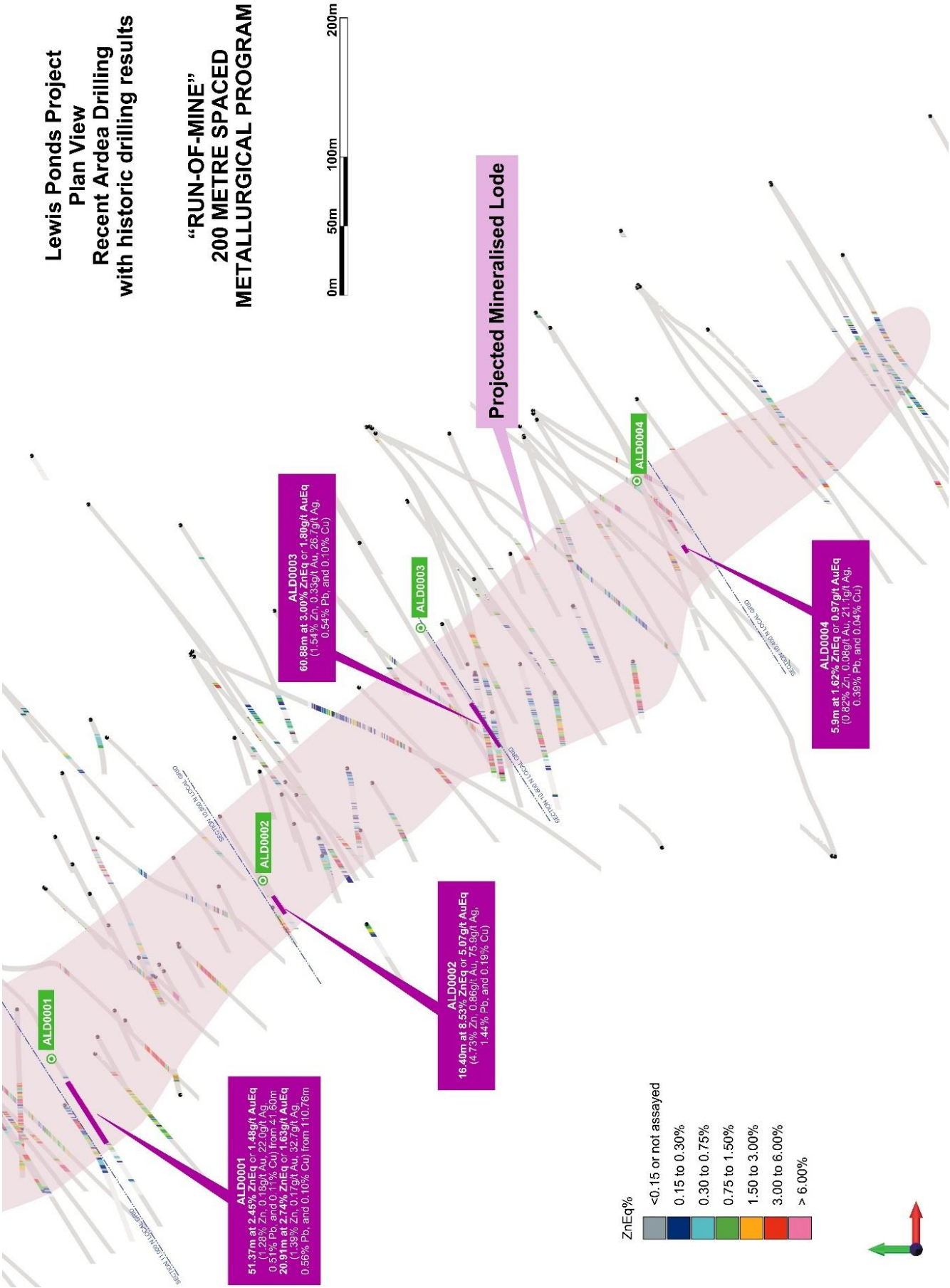

Figure 3 – Plan view of mineralisation in drilling between and around the 10400 and 11000mN sections at Lewis Ponds, showing the locations of Ardea's drillholes to date.

Mineralisation in ALD0003

In ALD0003, two mineralised "Polymetallic Stringer" sphalerite-pyrite zones were intersected which are separated and surrounded by disseminated low grade mineralisation:

- **5.88 m at 2.84 % Zn equivalent** or **1.88 g/t Au equivalent** (0.73 % Zn, 1.06 g/t Au, 17.8 g/t Ag, 0.45 % Pb, and 0.02 % Cu) from 46.62 m
- **60.88 m at 3.00 % Zn equivalent** or **1.80 g/t Au equivalent** (1.54 % Zn, 0.33 g/t Au, 26.7 g/t Ag, 0.54 % Pb, and 0.10 % Cu) from 110.35 m

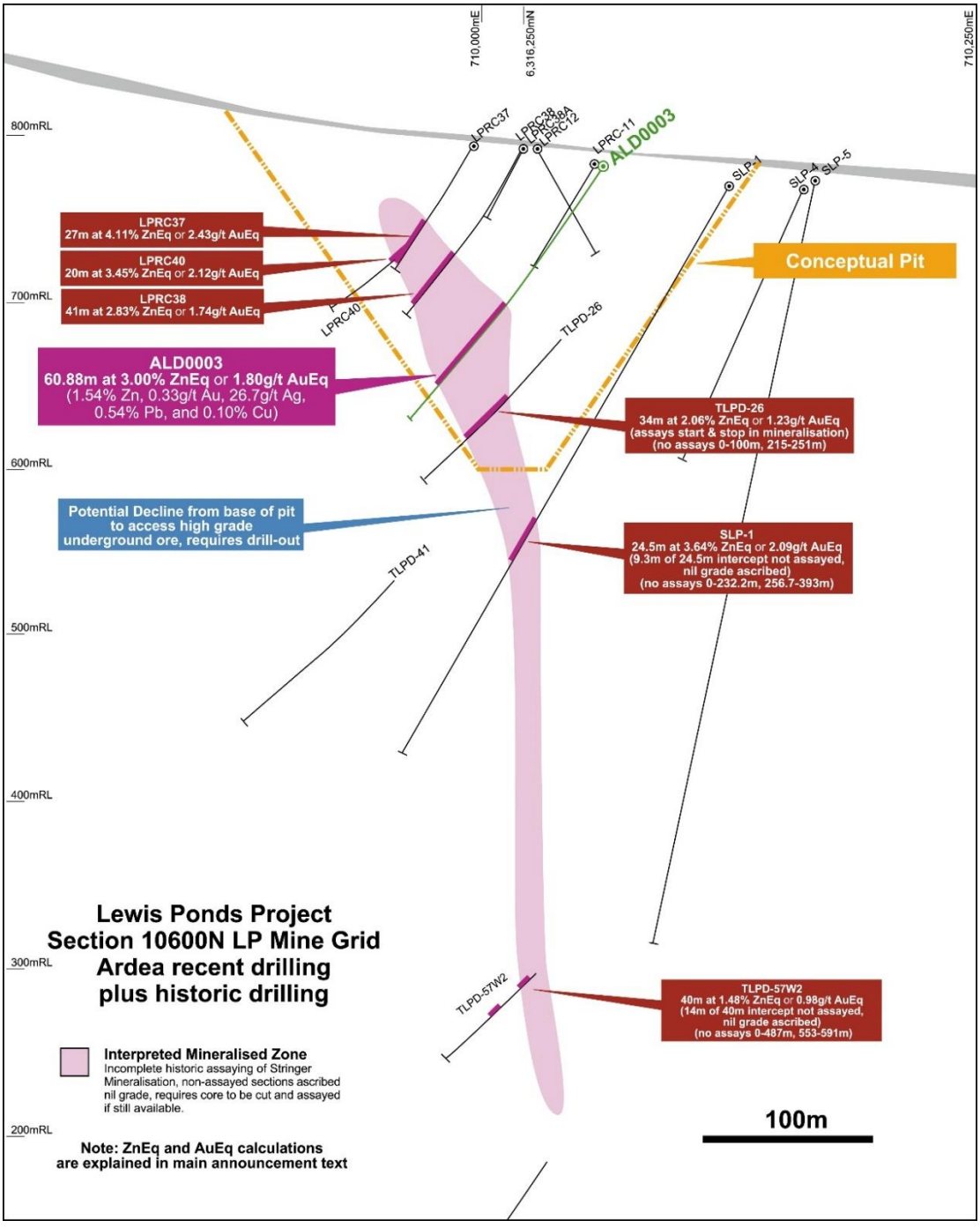

Figure 4 – Cross section along the 10600mN line on the Lewis Ponds grid, showing interpreted mineralisation distributions and a conceptual open design that recovers the Stringer Zone down to 200m below surface.

Mineralisation in ALD0004

In ALD0004, a single lower-grade zone comprised intense sericite-chlorite alteration with minor Polymetallic Stringer mineralisation shows an abrupt contact with the surrounding rock types.

- **5.90 m at 1.62 % Zn equivalent** or **0.97 g/t Au equivalent** (0.82 % Zn, 0.08 g/t Au, 21.1 g/t Ag, 0.39 % Pb, and 0.04 % Cu) from 92.06 m

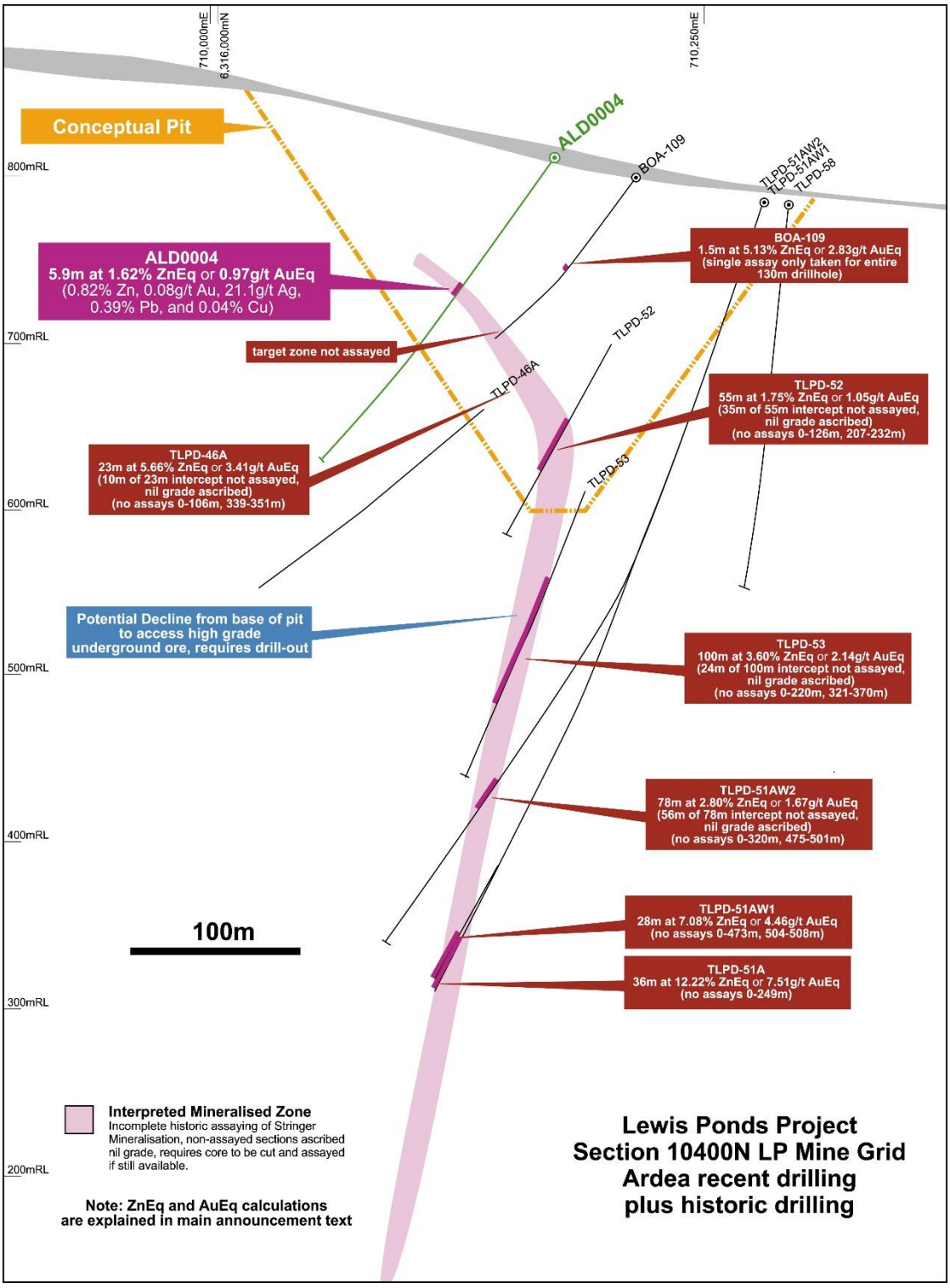

Figure 5 – Cross section along the 10400mN line on the Lewis Ponds grid, showing interpreted mineralisation distributions and a conceptual open design that recovers the Stringer Zone down to 200m below surface.

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 (refer Prospectus Table 3.2 for full description of resource status).

As a potential Massive Sulphide underground operation, the published Lewis Ponds resource (refer below) was calculated at a 3% zinc equivalent cut-off. This is opposed to Ardea's 1.5% zinc equivalent cut-off for an envisaged open pit Stringer Sulphide mining operation. The Ardea concept is consistent with bulk tonnage operations in the central Lachlan Fold Belt 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 ALD0003 and ALD0004 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	?	ALD0003[1]	1.54	0.33	26.7	0.54	0.10	**3.00**	**1.80**
				ALD0004[2]	0.82	0.08	21.15	0.39	0.04	**1.62**	**0.97**
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] ALD0003, 100.35-161.23 m. [2] ALD0004,, 92.06-97.96 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).

[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.*

Pre-feasibility Study

The purpose of Ardea's initial Lewis Ponds drilling was to develop geological, mining and processing models. In historic work, clear stringer mineralised drill core was often not sampled or key elements not assayed. Additionally, drill core on site is too oxidised to be used in metallurgical test-work. The current program was thus required to establish a platform for the Lewis Ponds feasibility programs.

Mining

Open Pit

The initial four Ardea core holes at Lewis Ponds have entirely validated the bulk tonnage development model, looking at a potential open pit to a depth of 200 metres. Within this conceptual Lewis Ponds pit design, the Stringer Zone measures 25-50 m horizontal width, dipping 70-90° east. The western ore contact largely follows the western pit batter, which has a favourable impact on strip ratio. There is around 30 m vertical of surface depletion.

Mineralisation is bi-modal, with higher grade lenses suited to selective mining averaging 3.5 % Zn equiv. These are diluted by sub-grade internal waste grading 0.5-1.0 % Zn equiv., for a bulk grade of 2.8 % Zn equiv. The mineralisation style is entirely suited to selective open pit mining, with ore grades associated with dark pyrite-chlorite and internal waste variously light grey mudstone or white limestone.

Underground

There is clearly significant underground mining potential at Lewis Ponds. Wide and/or higher grade deeper mineralised zones defined by historical drilling (Figures 4 & 5) include:

- 10400N TLPD-51A – 36.0 m at 12.2% Zn equiv, TLPD-51AW1 – 28 m at 7.1% Zn equiv
- 10600N SLP-1 – 24.5 m at 3.6% Zn equiv

These targets are invariably poorly drilled. All current work will focus entirely on shallow open pit mineralisation.

Metallurgy

The next requirement is to quantify metal recoveries ahead of a future resource drill-out.

The core is being composited into "run-of-mine" grade bulk samples and despatched to Perth for metallurgical flotation testwork. The proposed program includes:

- Initial variability samples to quantify preferred grind size and flotation reagents.
- A bulk sample for flow-sheet optimisation.
- Pre-concentration options for sub-grade stringer mineralisation.

For further information regarding Ardea, please visit www.ardearesources.com.au 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*
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 mineralisation.*	• 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 mineralisation 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 (% ZnEq) and the other based on 7% ZnEq (potentially economic). No cutting of high grades took place at the aggregation stage because grade composites were used only for the interpretation of the geometry of the mineralisation on cross section and in plan, prior to wireframing, not for Resource estimation. • 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% ZnEq cutoff: the number of intercepts increases by 20 percent (although many lie between 7 and 8% ZnEq); the sum of intercept lengths increases 30 percent and the weighted average ZnEq 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% ZnEq), 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% ZnEq cutoff, the mineralisation has good continuity. At a higher cutoff, say 7% ZnEq 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 ZnEq and a significant number which were near below the 7 percent ZnEq 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 Torpey'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 ALD0003 and ALD0004

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0003	31.95	33.00	1.05	A05212	0.20	0.01	2.4	0.04	0.01	2.9	1.11	2.6	-5	783	850
ALD0003	33.00	34.10	1.10	A05213	0.23	0.02	8.8	0.04	0.02	3.5	0.67	1.6	11	1,680	1320
ALD0003	34.10	35.20	1.10	A05214	0.10	0.04	3.6	0.01	0.01	2.4	1.29	1.1	8	830	520
ALD0003	35.20	36.30	1.10	A05215	0.13	0.05	14.8	0.06	0.06	2.4	1.55	2.4	12	650	480
ALD0003	36.30	37.42	1.12	A05216	0.19	0.02	4.9	0.06	0.01	1.9	0.65	2.6	8	1,545	2190
ALD0003	37.42	38.18	0.76	A05217	0.10	-0.01	2.5	0.05	0.00	2.2	0.78	2.1	10	1,175	1850
ALD0003	38.18	39.30	1.12	A05218	0.09	0.02	2.4	0.05	0.00	2.8	1.60	2.4	7	926	790
ALD0003	39.30	40.80	1.50	A05219	0.08	-0.01	1.8	0.04	0.01	2.0	0.85	2.8	8	897	990
ALD0003	40.80	42.30	1.50	A05220	0.05	0.03	2.2	0.02	0.01	2.4	1.11	3.2	7	944	1350
ALD0003	42.30	43.80	1.50	A05221	0.05	0.06	3.1	0.01	0.00	2.0	1.16	2.9	8	519	720
ALD0003	43.80	45.30	1.50	A05222	0.05	0.17	1.9	0.01	0.00	1.6	1.21	4.0	14	179	600
ALD0003	45.30	46.62	1.32	A05223	0.10	0.11	2.1	0.04	0.00	1.8	0.93	3.3	18	360	760
ALD0003	46.62	47.60	0.98	A05224	2.37	0.50	67.1	1.62	0.08	8.7	8.15	1.2	93	1,545	450
ALD0003	47.60	48.50	0.90	A05225	1.76	0.27	35.9	1.11	0.03	4.1	2.44	1.4	44	1,210	550
ALD0003	48.50	49.50	1.00	A05226	0.21	0.01	2.7	0.05	0.02	5.6	1.96	2.1	11	1,375	650
ALD0003	49.50	50.50	1.00	A05227	0.12	0.03	1.0	0.01	0.00	3.9	1.93	3.8	11	615	380
ALD0003	50.50	51.50	1.00	A05228	0.03	2.31	1.2	0.02	0.01	4.0	1.77	3.6	7	614	830
ALD0003	51.50	52.50	1.00	A05229	0.02	3.16	1.6	0.01	0.00	3.7	1.22	3.1	-5	490	740
ALD0003	52.50	53.50	1.00	A05230	0.05	0.79	-0.5	0.01	0.01	4.0	0.70	3.4	7	609	4470
ALD0003	53.50	55.00	1.50	A05232	0.05	0.20	-0.5	0.00	0.00	3.6	0.58	2.8	-5	519	3500
ALD0003	55.00	56.50	1.50	A05233	0.03	0.11	-0.5	0.00	0.00	3.6	0.29	3.0	-5	519	3170
ALD0003	56.50	58.00	1.50	A05234	0.03	0.02	-0.5	0.00	0.00	3.4	0.23	2.8	-5	491	2920
ALD0003	58.00	59.50	1.50	A05235	0.03	0.01	-0.5	0.00	0.00	3.6	0.19	3.1	-5	541	3300
ALD0003	59.50	61.00	1.50	A05236	0.02	0.01	-0.5	0.00	0.00	3.2	0.15	2.8	-5	618	3150
ALD0003	61.00	62.50	1.50	A05237	0.02	0.01	-0.5	0.00	0.00	2.7	0.23	3.3	-5	656	3970
ALD0003	62.50	64.10	1.60	A05238	0.02	0.01	-0.5	0.00	0.01	3.2	0.56	3.1	-5	589	3480
ALD0003	64.10	65.10	1.00	A05239	0.03	-0.01	0.5	0.01	0.01	2.6	0.58	2.0	-5	545	1110
ALD0003	65.10	66.25	1.15	A05240	0.01	-0.01	-0.5	0.01	0.01	2.6	0.25	1.8	-5	2,410	1980
ALD0003	66.25	67.33	1.08	A05241	0.11	0.02	4.4	0.04	0.03	2.7	0.86	1.1	5	3,070	1440
ALD0003	67.33	68.70	1.37	A05242	0.10	0.01	3.8	0.15	0.03	1.9	0.85	1.1	-5	347	1120
ALD0003	68.70	69.70	1.00	A05243	0.02	0.01	1.4	0.02	0.01	2.0	0.38	0.6	-5	497	670
ALD0003	69.70	70.67	0.97	A05244	0.09	-0.01	1.3	0.06	0.01	3.1	0.32	1.1	-5	932	230
ALD0003	70.67	71.70	1.03	A05245	0.06	0.03	0.8	0.04	0.01	2.2	1.18	0.9	5	392	780
ALD0003	71.70	73.00	1.30	A05246	0.01	0.01	-0.5	0.00	0.00	2.8	1.31	2.6	-5	409	780
ALD0003	73.00	75.00	2.00	A05247	0.01	-0.01	-0.5	0.00	0.00	3.0	1.41	2.7	-5	473	580
ALD0003	75.00	77.00	2.00	A05248	0.01	0.01	-0.5	0.00	0.00	2.9	1.46	2.3	-5	559	530
ALD0003	77.00	79.00	2.00	A05249	0.01	-0.01	-0.5	0.01	0.00	3.2	0.55	1.8	6	4,240	1430
ALD0003	79.00	81.00	2.00	A05250	0.01	0.12	0.7	0.01	0.01	3.4	0.50	2.7	-5	2,240	1930
ALD0003	81.00	83.00	2.00	A05252	0.01	0.04	0.5	0.01	0.00	3.6	1.17	3.1	-5	948	1260
ALD0003	83.00	84.44	1.44	A05253	0.01	0.11	-0.5	0.01	0.00	3.3	0.35	2.6	-5	1,160	1360
ALD0003	84.44	85.50	1.06	A05254	0.01	0.02	-0.5	0.01	0.00	4.3	0.38	2.7	-5	1,570	1360
ALD0003	85.50	87.00	1.50	A05255	0.01	0.01	-0.5	0.01	0.00	3.6	0.24	2.3	-5	1,690	1280
ALD0003	87.00	89.00	2.00	A05256	0.01	-0.01	-0.5	0.00	0.00	3.3	0.10	2.4	-5	1,815	1300
ALD0003	89.00	91.00	2.00	A05257	0.01	-0.01	-0.5	0.00	0.00	3.0	0.51	1.8	-5	3,890	870
ALD0003	91.00	93.00	2.00	A05258	0.01	-0.01	0.5	0.00	0.00	2.9	0.46	3.0	-5	1,255	1350
ALD0003	93.00	94.50	1.50	A05259	0.01	0.04	0.6	0.00	0.00	2.8	0.94	3.1	-5	591	1340
ALD0003	94.50	95.97	1.47	A05260	0.01	0.20	1.1	0.00	0.00	2.8	0.92	3.0	-5	525	1320
ALD0003	95.97	97.06	1.09	A05261	0.01	0.11	1.4	0.00	0.00	1.7	0.72	1.4	5	172	850
ALD0003	97.06	98.80	1.74	A05262	0.01	0.17	1.2	0.01	0.00	3.4	0.60	2.9	-5	797	1320
ALD0003	98.80	100.35	1.55	A05263	0.10	0.03	1.1	0.00	0.01	3.9	1.27	2.9	-5	601	1440
ALD0003	100.35	101.30	0.95	A05264	0.78	0.33	23.3	0.09	0.03	18.9	10.00	2.4	24	488	200
ALD0003	101.30	102.28	0.98	A05265	0.58	0.32	26.3	0.12	0.04	21.7	10.00	0.9	36	1,240	70
ALD0003	102.28	103.30	1.02	A05266	0.01	0.01	0.9	0.00	0.00	3.4	0.66	2.4	-5	833	1230
ALD0003	103.30	104.80	1.50	A05268	0.01	0.09	0.8	0.00	0.00	3.2	0.56	2.5	-5	993	1200
ALD0003	104.80	106.30	1.50	A05269	0.05	0.02	3.1	0.03	0.01	2.6	0.23	1.4	-5	1,165	540
ALD0003	106.30	107.80	1.50	A05270	0.01	0.07	0.8	0.00	0.00	2.8	0.55	2.3	-5	582	870
ALD0003	107.80	108.80	1.00	A05272	0.01	0.02	-0.5	0.01	0.00	3.0	0.63	2.1	-5	549	820
ALD0003	108.80	109.80	1.00	A05273	0.01	0.04	0.6	0.00	0.01	3.2	0.70	2.3	-5	593	960
ALD0003	109.80	110.86	1.06	A05274	0.03	0.02	0.8	0.01	0.01	2.8	0.51	1.3	-5	808	570
ALD0003	110.86	111.68	0.82	A05275	9.21	0.95	42.2	2.98	0.19	24.5	10.00	0.4	93	1,320	80
ALD0003	111.68	112.70	1.02	A05277	0.04	0.05	0.6	0.02	0.00	2.7	1.29	0.8	7	938	490
ALD0003	112.70	113.80	1.10	A05278	0.02	0.17	1.0	0.02	0.01	2.7	2.04	1.6	10	582	290
ALD0003	113.80	114.90	1.10	A05279	0.01	0.10	0.7	0.01	0.00	2.6	1.74	1.5	10	437	540
ALD0003	114.90	115.90	1.00	A05280	0.24	0.25	3.0	0.03	0.11	15.1	10.00	1.7	6	1,240	390
ALD0003	115.90	116.90	1.00	A05281	0.03	0.13	3.6	0.04	0.01	13.2	10.00	2.0	6	1,315	320
ALD0003	116.90	118.12	1.22	A05282	1.59	0.52	19.1	0.43	0.10	19.9	10.00	0.1	33	1,265	60

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0003	118.12	119.27	1.15	A05283	2.88	0.58	16.5	0.66	0.28	16.9	10.00	0.1	24	1,090	20
ALD0003	119.27	120.48	1.21	A05284	8.34	1.42	70.7	3.30	0.31	20.8	10.00	0.1	95	1,065	10
ALD0003	120.48	121.10	0.62	A05286	4.87	0.91	58.7	1.48	0.30	9.7	9.88	0.9	81	1,315	260
ALD0003	121.10	121.83	0.73	A05287	3.25	0.57	70.3	1.30	0.22	8.8	9.16	1.0	209	1,045	410
ALD0003	121.83	123.09	1.26	A05288	2.03	0.32	33.0	0.49	0.12	5.3	3.54	0.4	58	1,970	140
ALD0003	123.09	123.41	0.32	A05289	0.68	0.09	19.8	0.11	0.07	1.5	1.10	0.0	82	8,820	20
ALD0003	123.41	124.30	0.89	A05290	1.54	0.21	31.0	0.48	0.13	4.3	2.77	0.4	40	1,405	240
ALD0003	124.30	125.10	0.80	A05292	0.56	0.02	13.6	0.12	0.04	3.2	0.64	0.5	27	1,095	310
ALD0003	125.10	126.00	0.90	A05293	2.33	0.57	56.3	0.94	0.19	3.9	3.48	0.2	70	873	40
ALD0003	126.00	126.87	0.87	A05294	5.01	0.58	126.0	2.36	0.42	5.8	6.51	0.5	124	1,005	40
ALD0003	126.87	127.80	0.93	A05295	1.17	0.06	28.6	0.73	0.08	1.8	0.94	0.3	33	4,830	30
ALD0003	127.80	128.70	0.90	A05296	0.38	0.06	10.6	0.28	0.05	1.9	0.35	0.3	15	4,800	20
ALD0003	128.70	129.60	0.90	A05297	0.92	0.11	17.0	0.46	0.07	1.5	0.90	0.1	22	4,310	20
ALD0003	129.60	130.42	0.82	A05298	0.76	0.05	17.9	0.44	0.02	1.7	0.67	0.1	28	4,870	20
ALD0003	130.42	131.27	0.85	A05299	4.60	0.64	86.8	1.55	0.24	4.7	5.35	0.3	132	1,160	20
ALD0003	131.27	132.02	0.75	A05300	1.72	1.21	61.8	0.97	0.17	1.5	1.69	0.1	483	5,600	30
ALD0003	132.02	132.80	0.78	A05301	1.26	0.14	27.1	0.44	0.05	4.4	2.61	0.7	35	842	540
ALD0003	132.80	133.53	0.73	A05302	2.48	0.37	37.5	0.73	0.13	4.6	4.03	0.2	44	919	30
ALD0003	133.53	134.60	1.07	A05303	3.00	0.51	52.4	0.92	0.17	4.7	4.33	0.3	62	729	240
ALD0003	134.60	135.65	1.05	A05304	1.26	0.68	20.9	0.29	0.06	5.3	5.78	2.4	77	313	1220
ALD0003	135.65	136.70	1.05	A05305	3.12	1.19	66.3	0.87	0.18	5.9	7.64	3.4	115	382	890
ALD0003	136.70	137.75	1.05	A05307	2.08	0.63	36.1	0.56	0.11	5.1	6.13	3.6	68	297	170
ALD0003	137.75	138.85	1.10	A05308	3.45	0.95	67.0	0.79	0.17	5.7	6.69	1.7	438	480	820
ALD0003	138.85	139.92	1.07	A05309	1.42	0.50	53.5	0.61	0.14	3.3	3.04	0.3	532	1,890	60
ALD0003	139.92	141.00	1.08	A05310	0.92	0.54	43.0	0.58	0.08	1.4	1.52	0.1	405	711	70
ALD0003	141.00	142.50	1.50	A05312	0.28	0.03	3.2	0.06	0.02	0.5	0.41	0.1	6	2,030	80
ALD0003	142.50	143.93	1.43	A05313	0.88	0.60	15.6	0.31	0.05	2.5	2.52	0.7	19	769	550
ALD0003	143.93	145.19	1.26	A05314	0.03	0.01	0.7	0.01	0.00	0.1	0.08	0.0	-5	543	30
ALD0003	145.19	146.25	1.06	A05315	1.35	0.25	30.6	0.48	0.12	4.8	4.66	1.1	36	1,010	370
ALD0003	146.25	147.30	1.05	A05316	1.42	0.21	32.5	0.44	0.09	5.2	5.17	2.2	37	736	520
ALD0003	147.30	148.35	1.05	A05317	0.80	0.22	18.8	0.30	0.10	5.6	5.19	1.5	28	771	170
ALD0003	148.35	149.45	1.10	A05318	5.60	0.58	55.0	1.38	0.45	6.4	8.86	0.3	165	1,070	70
ALD0003	149.45	150.45	1.00	A05319	0.91	0.24	21.1	0.36	0.09	3.5	3.67	1.4	72	725	530
ALD0003	150.45	151.45	1.00	A05321	0.21	0.09	5.2	0.06	0.03	2.7	2.53	3.1	15	198	410
ALD0003	151.45	152.45	1.00	A05322	1.08	0.29	25.3	0.35	0.07	4.7	4.76	2.1	88	238	520
ALD0003	152.45	153.48	1.03	A05323	0.70	0.14	10.9	0.24	0.06	3.3	2.92	1.5	41	524	400
ALD0003	153.48	154.50	1.02	A05324	0.31	0.08	11.1	0.14	0.05	1.1	0.79	0.0	105	2,520	20
ALD0003	154.50	155.30	0.80	A05325	2.40	0.95	101.0	0.87	0.33	6.3	7.25	0.0	904	1,055	10
ALD0003	155.30	156.03	0.73	A05326	3.59	0.61	54.0	1.56	0.17	7.4	9.48	0.0	184	1,245	10
ALD0003	156.03	157.30	1.27	A05327	0.04	0.01	0.8	0.01	0.00	0.4	0.07	0.0	-5	1,480	10
ALD0003	157.30	158.50	1.20	A05328	0.05	0.01	1.4	0.02	0.00	0.4	0.10	0.0	-5	1,080	10
ALD0003	158.50	159.64	1.14	A05329	0.58	0.06	18.3	0.53	0.02	1.0	0.80	0.0	80	1,235	10
ALD0003	159.64	160.13	0.49	A05330	2.76	0.25	37.1	1.07	0.12	4.5	4.86	0.0	118	622	10
ALD0003	160.13	161.23	1.10	A05332	3.50	0.26	48.3	1.62	0.20	4.9	6.08	0.0	152	981	-10
ALD0003	161.23	162.75	1.52	A05333	0.02	-0.01	0.5	0.01	0.00	0.3	0.06	0.0	-5	1,630	10
ALD0003	162.75	164.33	1.58	A05334	0.17	0.01	2.0	0.03	0.02	0.5	0.15	0.0	5	1,675	10
ALD0003	164.33	165.10	0.77	A05335	0.08	0.01	1.9	0.04	0.00	3.1	1.32	0.0	5	953	10
ALD0003	165.10	166.19	1.09	A05336	0.02	-0.01	0.6	0.01	0.00	0.7	0.19	0.0	-5	2,250	10
ALD0003	166.19	167.30	1.11	A05337	0.01	0.03	-0.5	0.00	0.00	3.2	2.69	3.6	-5	229	420
ALD0003	167.30	168.50	1.20	A05338	0.01	0.06	0.8	0.01	0.00	3.2	3.21	4.9	7	127	390
ALD0004	28.50	30.50	2.00	A05339	0.21	-0.01	1.3	0.08	0.01	2.2	0.17	0.4	-5	726	610
ALD0004	30.50	31.70	1.20	A05340	0.03	-0.01	-0.5	0.03	0.01	1.5	0.36	1.7	-5	340	3810
ALD0004	31.70	32.90	1.20	A05341	0.01	-0.01	-0.5	0.02	0.01	1.1	0.07	0.1	-5	208	190
ALD0004	32.90	34.60	1.70	A05342	0.01	-0.01	-0.5	0.02	0.01	1.4	0.01	0.1	-5	346	200
ALD0004	34.60	35.90	1.30	A05343	0.07	0.01	7.8	0.32	0.05	2.1	0.47	0.3	-5	435	240
ALD0004	35.90	37.20	1.30	A05344	0.33	0.01	4.3	0.21	0.02	4.1	1.68	1.0	-5	843	1010
ALD0004	37.20	38.50	1.30	A05345	0.64	0.01	10.7	0.50	0.09	3.5	1.77	0.7	10	645	520
ALD0004	38.50	41.50	3.00	A05346	0.09	0.01	7.2	0.31	0.21	2.8	2.17	1.7	-5	164	210
ALD0004	41.50	43.00	1.50	A05347	0.03	-0.01	-0.5	0.00	0.03	4.8	0.19	1.4	-5	1,670	1140
ALD0004	43.00	44.50	1.50	A05348	0.03	-0.01	-0.5	0.00	0.01	4.2	0.09	0.9	-5	1,520	640
ALD0004	44.50	46.00	1.50	A05349	0.10	-0.01	-0.5	0.00	0.00	4.3	0.15	1.8	-5	1,640	1250
ALD0004	46.00	47.50	1.50	A05350	0.10	-0.01	-0.5	0.00	0.00	4.0	0.87	1.6	-5	1,390	1080
ALD0004	53.00	55.00	2.00	A05351	0.02	-0.01	-0.5	0.00	0.00	2.8	0.05	0.0	-5	1,860	40
ALD0004	75.00	77.00	2.00	A05352	0.01	0.02	-0.5	0.00	0.00	2.0	0.06	0.0	-5	3,130	10
ALD0004	77.00	79.00	2.00	A05353	0.01	-0.01	-0.5	0.00	0.00	2.3	0.22	0.0	-5	3,590	20
ALD0004	83.00	85.00	2.00	A05354	0.02	-0.01	-0.5	0.00	0.00	4.6	0.55	0.0	-5	1,790	10
ALD0004	85.00	86.48	1.48	A05355	0.03	-0.01	0.6	0.01	0.00	4.9	0.83	0.1	-5	1,840	30
ALD0004	86.48	88.00	1.52	A05356	0.01	0.02	0.7	0.00	0.00	2.2	1.45	2.4	-5	231	770
ALD0004	88.00	89.50	1.50	A05357	0.01	0.02	1.0	0.01	0.00	2.8	1.51	3.1	-5	357	810
ALD0004	89.50	91.00	1.50	A05358	0.01	0.01	-0.5	0.00	0.00	2.7	1.20	2.5	-5	468	680
ALD0004	91.00	92.06	1.06	A05360	0.01	0.01	0.6	0.01	0.01	2.9	1.10	2.6	-5	745	1020
ALD0004	92.06	93.15	1.09	A05361	2.86	0.10	91.4	1.29	0.09	3.1	3.07	0.1	67	16,000	40
ALD0004	93.15	94.45	1.30	A05362	0.02	0.06	1.2	0.01	0.01	3.8	1.92	2.3	-5	2,370	710
ALD0004	94.45	95.65	1.20	A05363	0.01	-0.01	0.8	0.01	0.01	3.3	1.61	3.2	10	493	620
ALD0004	95.65	96.88	1.23	A05364	0.02	0.08	1.0	0.02	0.01	2.8	2.30	3.3	5	248	230
ALD0004	96.88	97.96	1.08	A05365	1.53	0.19	19.6	0.78	0.09	6.0	5.70	3.5	22	932	340

Hole_ID	From (m)	To (m)	Width (m)	SampleID	Zn (%)	Au (ppm)	Ag (ppm)	Pb (%)	Cu (%)	Fe (%)	S (%)	K	Sb	Mn	Ba
ALD0004	97.96	99.60	1.64	A05366	0.19	-0.01	1.6	0.06	0.00	2.6	0.17	0.1	-5	1,195	30
ALD0004	99.60	101.10	1.50	A05367	0.03	0.01	-0.5	0.01	0.00	2.2	0.02	0.3	-5	849	160
ALD0004	115.85	117.50	1.65	A05368	0.04	-0.01	-0.5	0.02	0.00	4.4	0.16	0.3	-5	1,765	100
ALD0004	117.50	119.50	2.00	A05369	0.02	-0.01	-0.5	0.00	0.00	4.1	0.36	1.0	-5	1,325	470
ALD0004	119.50	121.50	2.00	A05370	0.03	-0.01	-0.5	0.00	0.00	4.3	0.11	0.3	-5	1,600	110
ALD0004	121.50	123.50	2.00	A05372	0.02	-0.01	-0.5	0.00	0.00	3.9	0.07	0.6	-5	1,360	190
ALD0004	123.50	125.50	2.00	A05373	0.18	0.01	1.0	0.08	0.01	4.9	0.88	0.0	-5	1,420	90
ALD0004	125.50	127.42	1.92	A05374	0.19	0.03	1.2	0.04	0.09	4.1	1.23	0.1	-5	1,550	120
ALD0004	127.42	128.90	1.48	A05375	0.10	0.01	0.6	0.05	0.07	3.1	0.43	0.1	-5	1,250	60
ALD0004	128.90	130.20	1.30	A05376	0.16	0.35	2.2	0.10	0.08	2.5	0.17	0.0	271	1,215	100
ALD0004	130.20	131.80	1.60	A05377	0.07	-0.01	-0.5	0.03	0.01	1.8	0.12	0.3	-5	2,300	40
ALD0004	131.80	133.44	1.64	A05378	0.32	0.02	3.6	0.09	0.06	2.5	0.64	0.1	-5	3,000	40
ALD0004	133.44	135.00	1.56	A05379	0.03	0.01	1.1	0.01	0.04	2.9	0.53	0.1	-5	821	30
ALD0004	135.00	136.91	1.91	A05380	0.03	0.01	0.8	0.01	0.01	3.4	0.68	0.3	-5	865	80
ALD0004	136.91	138.30	1.39	A05381	0.02	0.01	0.8	0.02	0.01	4.3	1.75	1.8	-5	929	590
ALD0004	138.30	139.50	1.20	A05382	0.02	0.01	0.5	0.01	0.01	2.8	1.13	3.3	-5	612	1030
ALD0004	152.50	154.00	1.50	A05383	0.05	0.02	0.9	0.02	0.01	2.2	1.41	4.4	-5	273	1120
ALD0004	154.00	155.00	1.00	A05385	0.06	0.02	1.1	0.04	0.01	2.7	1.64	4.6	-5	379	1150
ALD0004	155.00	156.00	1.00	A05386	0.02	0.01	-0.5	0.01	0.01	2.3	0.98	3.4	-5	368	850
ALD0004	156.00	158.00	2.00	A05387	0.08	0.01	0.7	0.04	0.01	2.9	1.04	2.9	-5	569	710
ALD0004	158.00	160.00	2.00	A05388	0.29	0.02	1.5	0.15	0.03	2.7	1.63	4.0	-5	359	990
ALD0004	160.00	161.00	1.00	A05389	0.21	0.01	1.0	0.10	0.02	3.1	1.62	3.5	-5	459	840
ALD0004	161.00	162.00	1.00	A05390	0.19	0.02	1.0	0.10	0.03	2.8	1.03	3.5	-5	505	860
ALD0004	162.00	163.50	1.50	A05391	0.24	0.02	1.3	0.10	0.02	3.3	1.54	4.6	-5	493	1120
ALD0004	163.50	165.00	1.50	A05392	0.32	0.17	1.7	0.15	0.02	2.9	0.76	4.4	-5	571	1060
ALD0004	165.00	166.68	1.68	A05393	0.03	0.01	1.6	0.02	0.01	2.8	1.10	3.9	-5	452	920
ALD0004	166.68	168.30	1.62	A05394	0.04	-0.01	0.5	0.02	0.00	2.2	0.27	3.6	-5	462	860
ALD0004	177.30	178.60	1.30	A05395	0.19	-0.01	0.9	0.07	0.01	2.9	0.12	1.6	-5	1,070	370
ALD0004	178.60	179.90	1.30	A05396	0.90	0.01	2.2	0.14	0.02	3.9	0.55	0.6	-5	1,410	150
ALD0004	203.00	204.50	1.50	A05398	0.01	-0.01	-0.5	0.00	0.00	2.2	0.30	3.6	-5	477	970
ALD0004	204.50	206.00	1.50	A05399	0.02	-0.01	0.5	0.01	0.01	2.5	0.40	3.5	-5	579	940
ALD0004	209.00	210.50	1.50	A05400	0.01	-0.01	-0.5	0.00	0.02	2.3	0.22	3.7	-5	523	1200
ALD0004	210.50	212.00	1.50	A05401	0.01	0.01	0.6	0.00	0.04	2.4	0.48	3.4	-5	595	1210
ALD0004	212.00	213.50	1.50	A05402	0.01	0.01	-0.5	0.00	0.03	2.2	0.27	3.6	-5	508	1370
ALD0004	218.00	219.50	1.50	A05403	0.01	0.01	0.6	0.00	0.04	2.2	0.54	3.7	-5	325	1310
ALD0004	219.50	221.00	1.50	A05404	0.01	-0.01	-0.5	0.00	0.03	2.6	0.18	4.1	-5	534	1490

Appendix 4 – Geo-metallurgical logging

ALD0003 Intercept Summary

From (m)	To (m)	Width (m)	ZnEq (%)	AuEq (g/t)	Zn (%)	Au (g/t)	Ag (g/t)	Pb (%)	Cu (%)	Lithology
0	31.95	31.95								Siltstone, white quartz veining, sericite-altered, strongly weathered (assays awaited)
31.95	46.62	14.60								Volcaniclastic dacitic mudstone and "quartz eye tuff", silica-sericite-chlorite-pyrite altered
42.62	**52.50**	**5.88**	**2.84**	**1.88**	**0.73**	**1.06**	**17.8**	**0.45**	**0.02**	Volcaniclastic andesitic mudstone, foliation-concordant bands sphal-py, qtz veining, intense pyrite-sericite-chlorite alteration
52.50	98.80	46.30								Volcaniclastic andesitic mudstone/sandstone, silica-sericite-chlorite alteration
98.80	110.86	12.06	0.37	0.24	0.14	0.09	4.9	0.02	0.01	Volcaniclastic andesitic mudstone/sandstone, silica-sericite-chlorite alteration
110.86	**121.83**	**10.97**	**4.54**	**2.69**	**2.61**	**0.50**	**23.6**	**0.88**	**0.13**	2-10mm laminated bands sphal-py in volcaniclastic dacitic mudstone, strong py-chlor alteration
121.83	**162.75**	**40.92**	**3.14**	**1.89**	**1.55**	**0.34**	**32.0**	**0.56**	**0.11**	2-10mm laminated bands sphal-py in interbedded volcaniclastic dacitic calc mudstone, sandstone and dolomite, strong chlor-py-dolomite alteration
162.75	190.60	27.80								Grey volcaniclastic andesitic calc mudst, , pervasive silica-sericite-chlorite alteration EOH

ALD0004 Intercept Summary

From (m)	To (m)	Width (m)	ZnEq (%)	AuEq (g/t)	Zn (%)	Au (g/t)	Ag (g/t)	Pb (%)	Cu (%)	Lithology
0	28.50	28.50								Volcaniclastic dacitic mudstone, sericite-altered, strongly weathered (gold target, assays awaited)
28.50	41.50	13.00								Volcaniclastic dacitic mudstone, silica-chlorite-sericite-pyrite altered
41.50	47.50	6.00								Volcaniclastic basaltic mudstone, intense chlorite-altered
47.50	92.06	44.56								Volcaniclastic andesitic mudstone, silica-sericite-chlorite-dolomite-pyrite alteration
92.06	**97.96**	**5.90**	**1.62**	**0.97**	**0.82**	**0.08**	**21.1**	**0.39**	**0.04**	Volcaniclastic andesitic mudstone, silica-sericite-chlorite-dolomite-pyrite alteration
97.96	128.50	30.54								Volcaniclastic rhyolitic mudstone, strong chlorite alteration
128.50	136.91	8,41								Volcaniclastic dacitic mudstone, strong chlorite alteration, minor dolomite alteration bands
136.91	166.68	29.77								Volcaniclastic andesitic mudstone, silica-sericite-chlorite-pyrite alteration, correlates with lode horizon lines 10600N to 11000N
166.68	230.00	63.32								Volcaniclastic andesitic mudstone, silica-sericite-chlorite alteration