

#### **ASX & Media Release**

12 November 2020

**ASX Symbol** 

ARL

#### **Ardea Resources Limited**

Suite 2 / 45 Ord St West Perth WA 6005

PO Box 1433 West Perth WA 6872

#### Telephone

+61 8 6244 5136

#### **Email**

ardea@ardearesources.com.au

#### Website

www.ardearesources.com.au

#### Directors

Mathew Longworth
Non-Executive Chair

Andrew Penkethman

Managing Director & CEO

lan Buchhorn
Technical Executive Director

#### **Executive Management**

Sam Middlemas
Company Secretary & CFO

Matt Painter General Manager Exploration

#### **Issued Capital**

Fully Paid Ordinary Shares 127,670,582

Directors/Employee Performance Rights 3,711,000

ABN 30 614 289 342

#### **Investor Webinar Presentation**

Ardea Resources Limited (ASX: ARL, Ardea or the Company) is pleased to announce its participation in the Noosa Mining and Exploration Investor Conference on Friday 13 November 2020 from 10.00am AEST / 8.00am AWST.

Managing Director and Chief Executive Officer, Andrew Penkethman, will provide an update on the Company with a focus on development of the Goongarrie Nickel Cobalt Project for the battery revolution and maximisation of shareholder value through concurrent, complementary gold and nickel sulphide exploration, within Ardea's strategic Western Australian tenement portfolio.

This free webinar will provide viewers the opportunity to hear from a range of ASX listed companies.

To access further details on the event and to register, please copy and paste the following link into your internet browser:

https://www.noosaminingconference.com.au/register

A copy of the investor presentation to be delivered during the webinar is attached.

Authorised for lodgement by Andrew Penkethman, Managing Director and Chief Executive Officer.

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

Andrew Penkethman

Managing Director and Chief Executive Officer,

Ardea Resources Limited

Tel +61 8 6244 5136

Email: ardea@ardearesources.com.au



#### **DEVELOPING**

the Kalgoorlie Nickel Project starting with Goongarrie Nickel-Cobalt

#### **EXPLORING**

for Gold and Nickel Sulphides within the Kalgoorlie Nickel Project

# NOOSA MINING CONFERENCE

November 2020



## **Disclaimer**

#### Important notice

This presentation contains general information only and is, or is based upon, information which has been released to ASX or is contained in the Ardea Resources Limited (Ardea or the Company) prospectus dated 9 November 2016 (including supplementary prospectuses dated 18 November 2016 and 6 January 2017), the Goongarrie Nickel Cobalt Project Pre-Feasibility Study (dated 28 March 2018) the Goongarrie Expansion Study (24 July 2018), Goongarrie Pilot Plant trial produces battery grade crystals (31 October 2018), Goongarrie Nickel Cobalt Project Update (8 April 2019), Drilling at Gale identifies large scale gold system (11 April 2019), Ardea Quarterly Operations Report, for the quarter ended 30 June 2019 (22 July 2019), Ardea Annual Report 2019 (24 October 2019), Ardea Quarterly Operations Report, for the quarter ended 31 December 2019 (17 January 2020) Ardea Quarterly Operations Report, for the quarter ended 31 March 2020 (9 April 2020), Maiden Resource for Big Four Gold Project, WA (14 May 2020), Significant gold exploration results from new target at Goongarrie South (25 June 2020), Follow-up RC drilling commences at the Aphrodite North gold target (10 July 2020), Quarterly Activities Report - June 2020 (23 July 2020), CSIRO research commences on gold behaviour within GNCP (12 August 2020), Significant gold in first RC drilling at Aphrodite North (13 August 2020), Gold Exploration Update (20 August 2020), and Ardea BTZ gold exploration success at Lady Charlotte (24 August 2020), Successful A\$3.5M Capital Raising to support Gold Work Programs, SPP to follow (18 September 2020), Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP (30 September 2020), Quarterly Activities Report - September 2020).

This presentation is not an invitation, offer or recommendation (express or implied) to subscribe for, or apply for the purchase of, or to take any other action in respect of securities of any entity described herein and is not a prospectus, product disclosure statement or disclosure document for the purposes of the Corporations Act 2001 (Cth) and has not been lodged with ASIC. None of Ardea Resources Limited (Ardea or the Company) or its representatives are providing or offering investment advice or services by making this presentation.

Neither Ardea nor its representatives make any representation, warranty or guarantee of any kind, express or implied, as to the accuracy, completeness or reasonableness of the information contained herein or any other written or oral communication transmitted or made available to any person receiving this presentation. To the maximum extent permitted by law, Ardea and representatives expressly disclaim any and all liability based on or arising from, in whole or in part, such information, or any errors or omissions.

This presentation contains forward-looking statements regarding the Company's resources, intentions and future business. These statements reflect current information, expectations, intentions and strategies regarding the future, and are subject to certain risks and uncertainties. Should one or more of these risks or uncertainties materialise, or should any of the underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this presentation. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made. Other than where required by law, the Company is under no obligation to revise any forward looking statement to reflect events or circumstances after the date of this presentation or to reflect the occurrence of unanticipated events.

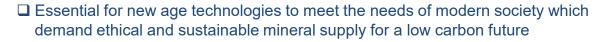
The Goongarrie Project has completed the Pre-Feasibility Study phase and has commenced programs that are part of the Definitive Feasibility Study. Though reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Actual results and developments of projects and the market development may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. A key conclusion of the Pre-Feasibility Study and Expansion Study, which is based on forward looking statements, is that the Goongarrie Project is considered to have positive economic potential.

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

## **Ardea Value Proposition**







- ☐ Ardea perfectly placed to meet these needs
- ☐ Pipeline of Nickel and Critical Mineral exploration opportunities with field work in progress

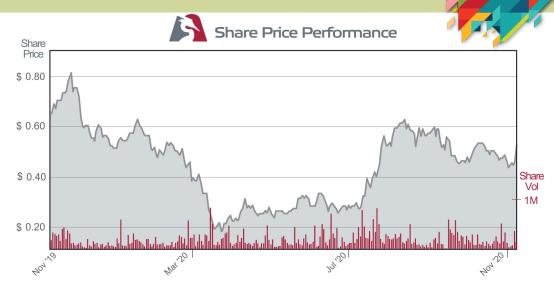


- ☐ Large, strategic 100% owned land holding in the premier operating jurisdiction, Western Australia
- ☐ Outstanding gold exploration opportunities within Ardea tenure
- ☐ Two new gold discoveries confirmed and lodged with State Government in last three weeks
- ☐ Gold exploration and resource definition work continuing to unlock the full mineral potential of Ardea's tenure

## **Corporate Summary**

Capital Structure, as at 10 November 2020				
ASX Code	ARL			
Shares on Issue	127,670,582			
Share Price	\$0.51			
52 week high / low	\$0.80 / \$0.17			
Cash (as at 31 Oct 2020)	\$12.1 million			
Market Capitalisation	\$65 million			
Largest Shareholder (lan Buchhorn)	~10% equity			
Top 40 Shareholders	~60% equity			

Board and Executive Management Team			
Mathew Longworth	Non-Executive Chair		
Andrew Penkethman	Managing Director and Chief Executive Officer		
Ian Buchhorn	<b>Executive Director</b>		
Sam Middlemas	Company Secretary and Chief Financial Officer		
Dr Matt Painter	General Manager Exploration		



Share price performance and volume 9 November 2019 to 9 November 2020





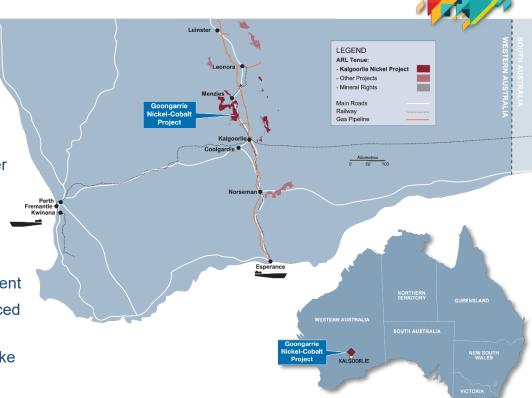




Focus on development of the GNCP for the battery revolution, with maximisation of shareholder value through concurrent, complementary gold and nickel sulphide exploration

### **Prime Location and Jurisdiction**

- All Ardea Projects located in Western Australia (WA)
- → 34,000km² ground position in Eastern Goldfields
- WA is the premier global destination for development of minerals operations
- WA is the top ranking operating jurisdiction in the Fraser Institute's Annual Survey of Mining Companies -Investment Attractiveness Index\*
- ☐ City of Kalgoorlie-Boulder is the prime resource development and operating destination within Australia
  - Very strong mining support from Local Government
  - Multitude of world-class mining operations serviced from the City
  - Ardea maintains a local presence and active stake holder engagement

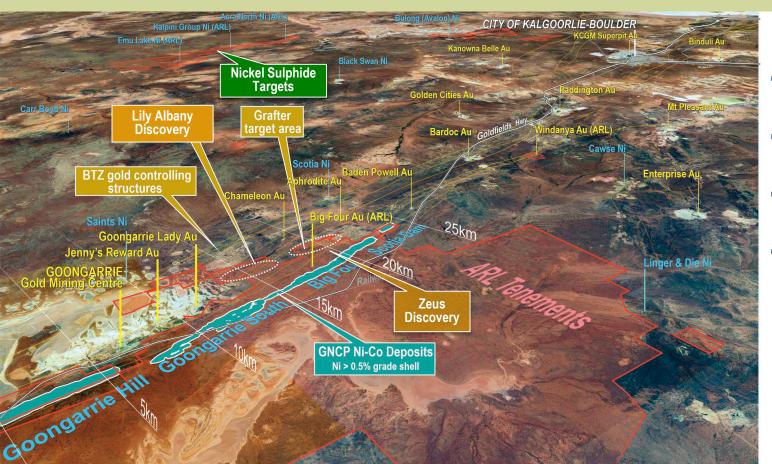






## Kalgoorlie Nickel Project - Ni, Co and Au

(looking southeast – with GNCP in the foreground. Note the scale and location)



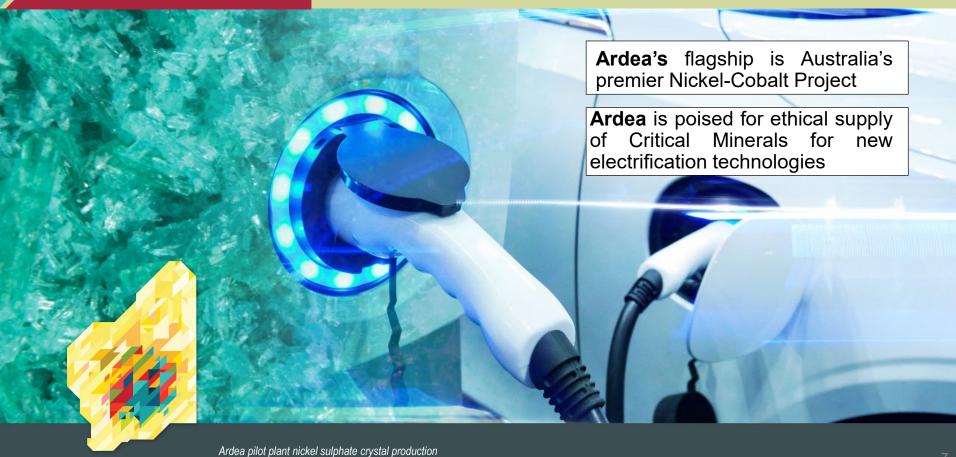


- Ardea KNP tenements shown in red
- GNCP 70km N of Kalgoorlie
  - Most resources on granted mining leases
- Leverage off existing infrastructure

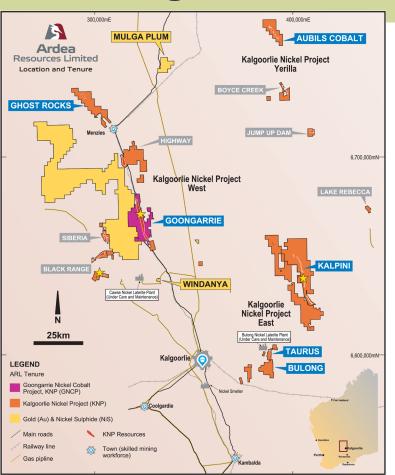
#### **DEVELOPING**

the Goongarrie Nickel Cobalt Project





## **The Kalgoorlie Nickel Project**



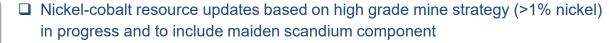
- ☐ Kalgoorlie Nickel Project (KNP) has a globally significant nickel and cobalt resource, pending imminent update
  - Resource: 773Mt at 0.7% Ni and 0.05% Co\*
  - 5.5 Million tonnes contained Nickel
  - 405,000 tonnes contained Cobalt
  - The Goongarrie Nickel Cobalt Project (GNCP) is the western part of broader KNP:
    - Resource: 216Mt at 0.71% Ni and 0.06% Co\*
    - 1.5 Million tonnes contained Nickel
    - 130,700 tonnes contained Cobalt
  - GNCP enables **tailored product** for future development to Strategic Partner's exact requirements:
    - Nickel and Cobalt Sulphate
    - Mixed Sulphide Product (MSP) and/or
    - Nickel and Cobalt Hydroxide (MHP)

<sup>\*</sup> See Appendix for resource breakdown

Per Goongarrie Expansion Study ASX release, 24 July 2018. All the material assumptions underpinning the forecast financial information derived from a production target, in the initial public report referred to in rule 5.17 continue to apply and have not materially changed.

## **Optimum Resource Scale**

**Piloting** studies have confirmed specification nickel & cobalt sulphate

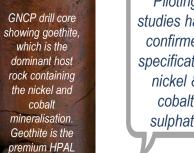


- ☐ Assumption is a world-leading Lithium Ion Battery (LIB) investor will require a minimum annual output of 40,000tpa nickel metal in product
- ☐ With 5.5Mt contained nickel\*, easily accommodated within the KNP starting with the GNCP
  - Capability for >100 year potential supply of resource within KNP
- ☐ KNP well suited for latest battery technology, NMC 811 LIB (Ni:Co = 8:1)
  - GNCP resource\* grade 0.71% Ni and 0.06% Co (Ni:Co = 11.8:1)
  - Additionally ore has >0.5% Mn, no PFS input as yet on Mn recovery levels
  - Potential for producing Precursor Ni-Mn-Co for specific LIB OEM





\* Refer to Ardea ASX releases: \*Goongarrie Nickel Cobalt Project, PFS study, 28 March 2018. Goongarrie Expansion Study, 24 July 2018, and Quarterly Operations Report, for the guarter ended 30 June 2019 (22 July 2019). All the material assumptions underpinning the forecast financial information derived from a production target, in the initial public report referred to in rule 5.17 continue to apply and have not materially







plant feed for this

style of mineralisation as

no screening or drying of ore

required before processing. Also,

low acid

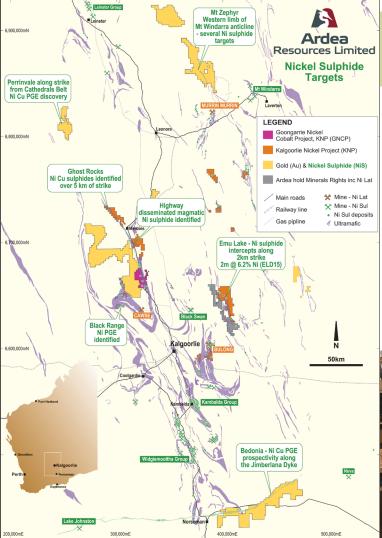
consumption.





# **Optimum location for ensuring ethical supply**

- ☐ Large contiguous KNP land holding allows unimpeded site planning to minimise ultimate site footprint
- Open Mediterranean woodland highly amenable to low-impact development and rehabilitation
- ☐ Arid environment, facilitates well managed tailings disposal
  - Rehabilitation procedures well established over last four decades in Kalgoorlie open pit gold sector
  - No Pacific Ocean submarine tailings disposal
  - No valley-fill tailings dams
- □ No conflicting land use demands
  - KNP purely a mining jurisdiction
  - No competing food production activity (as in Eastern Australia laterite districts)
- Low carbon future
  - KNP HPAL plant steam, heating and power generated through burning elemental sulphur for sulphuric acid feedstock
  - KNP HPAL neutraliser includes Ni-enriched non-carbonate options
  - Waste landform regeneration facilitates significant agroforestry throughout the KNP



# Regional Location – Nickel Sulphide Projects

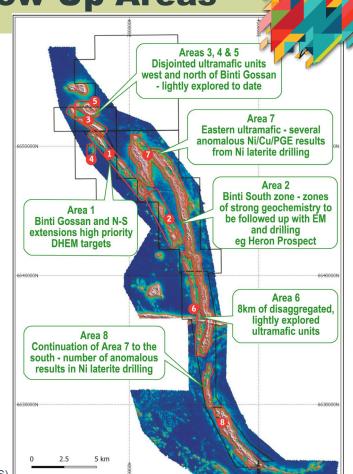
- □ Ardea's KNP tenure holds extensive nickel laterite resources and is one of the largest land holdings over ultramafic stratigraphy in Australia
- ☐ The same ground is **highly prospective for nickel sulphide**mineralisation
- ☐ Archaean Eastern Goldfields Province prolific ultramafic flows hosting numerous nickel sulphide deposits
- ☐ Multiple compelling nickel sulphide targets defined ranging from Kambalda style komatiites to layered mafic/ultramafic intrusive complexes
- Exploration programs underway



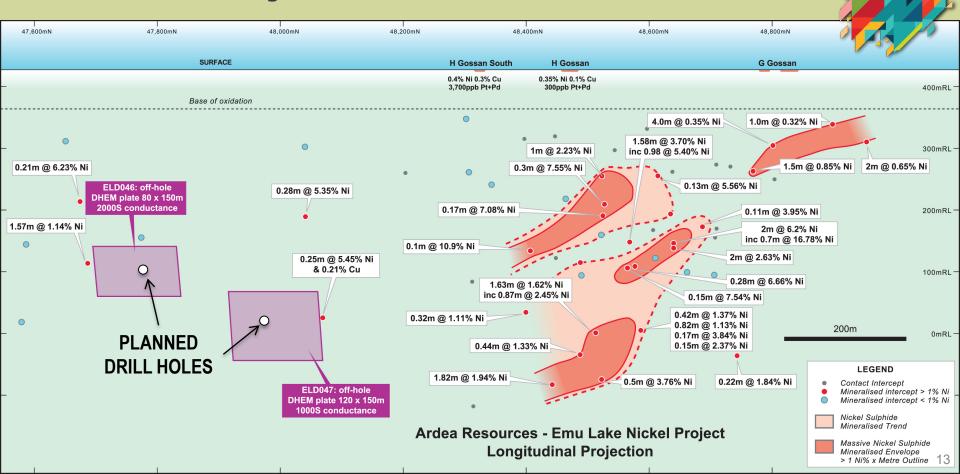
## **Emu Lake Project – Priority Follow-Up Areas**

- □ 70km NE of Kalgoorlie and 30km E of Black Swan nickel mine and processing plant (Poseidon Nickel Ltd)
- ☐ Strategic ground holding covering 240km² mainly on granted mining leases
- ☐ Ardea controls 20km strike of this prospective and under-explored ultramafic flow channel zone
- ☐ Recent review of all available data by Newexco has prioritised eight areas for follow-up exploration
- ☐ Eight high priority targets defined by in-depth expert review
  - Highest priority area is below Binti Gossans and then along strike on western ultramafic
- ☐ Eastern ultramafic (nickel laterite resource area) has highlighted several areas of anomalous geochemistry and is even less explored than the western ultramafic
- Numerous targets (not shown) throughout the area



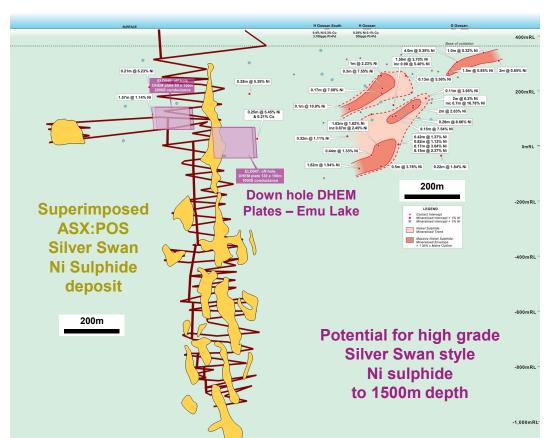


# **Emu Lake Project – Binti Gossan Zone LS**



## **Emu Lake Project – Binti Gossan Zone Potential**

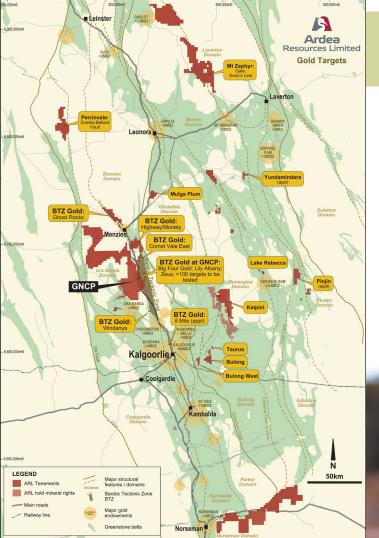
- □ Review of DHEM data has highlighted two off-hole conductors
- □ ELD047: 120m x 150m plate with 1000S conductance
- □ ELD046: 150m x 80m plate with 2000S conductance
- □ Re-survey of historic holes with Atlantis DHEM and ground EM on other target areas as well
- ☐ Drill testing scheduled for late November 2020





500m Open



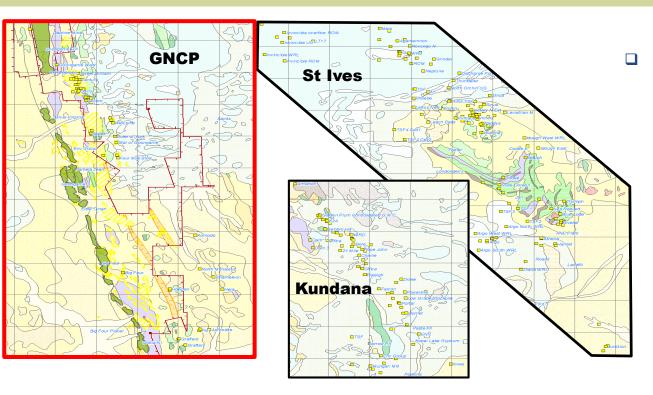


# Regional Location – Gold Projects

- ☐ WA's Eastern Goldfields one of the world's great gold mining provinces
- ☐ Ardea's ground is highly prospective for Archaean orogenic gold
- □ >100 gold exploration targets defined
- ☐ Ardea gold exploration strategy has already defined several discoveries in 2020 with an excellent strike rate and low discovery cost
- ☐ Exploration and resource definition work continues at pace
- Each and every "greenfields" drill program since June 2020 has intersected a new high grade gold discovery, signs of an emerging new BTZ gold province at GNCP, beneath shallow lake sediments



# **GNCP** in perspective with other WA Gold Camps

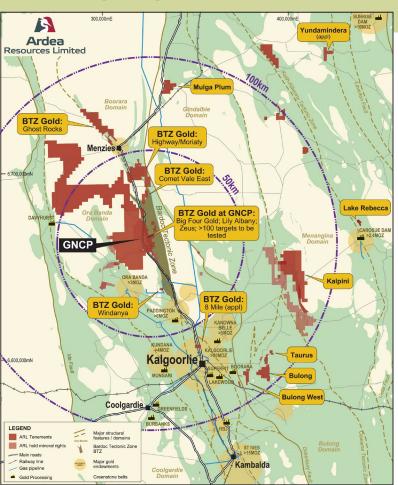


An emerging gold camp at GNCP

- Big Four gold resource
- Ardea's recent Lily Albany and Zeus discoveries. More to come...
- 25km long
- Similar length to the St Ives gold camp (>10Moz)
- More than twice the length of the Kundana gold camp (>10Moz)
- In contrast to these, there is almost no outcrop



# **Emerging Gold Camp Started with Big Four Gold**



- ☐ The beginning to unlocking the GNCP gold camp
  - Located 70km NW of Kalgoorlie on a granted GNCP mining lease
- ☐ Ardea drilling commenced January 2020 with results including\*:
  - 18m at 3.38g/t gold from 18m
  - 14m at 2.40g/t gold from 6m
  - 20m at 2.91g/t gold from 76m
- Maiden JORC Code (2012) Inferred Mineral Resource at Big Four Gold^:
  - 178kt at 2.7g/t gold, for 15,300 oz gold (0.5g/t Au cut off)
- ☐ Gold mineralisation starts within 5m of surface
- Mineralisation open down plunge
- ☐ Overall gold extractions of 97.7%
- No refractory issues or deleterious contaminants

## **Gold Strategy Progress During 2020**

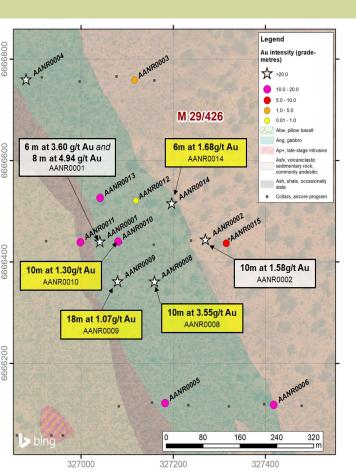




- Two new gold discoveries confirmed, Lily Albany and Zeus with others emerging
- □ Lily Albany Discovery confirmed with only 3,787m of AC and 3,691m of RC drilling
- ☐ Zeus Discovery confirmed with only 569m of RC drilling
- □ Ardea's scientific approach works and is distinctly different to most peers who are drilling underneath an old mine or historic resource and extending known zones of gold mineralisation
- Boots on ground, data mining, internal IP and an experienced team continue to unlock the full potential of Ardea's strategic Fastern Goldfields tenure

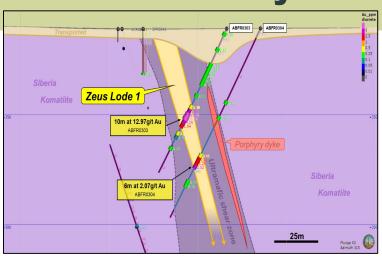
## **Gold Discovery Success – Lily Albany**





- ☐ The first virgin greenfields gold discovery in the Bardoc Tectonic Zone on Ardea's GNCP tenure, located on a granted mining lease
- ☐ Hidden by 10 to 40 metres of surface cover and lake clays in an area not previously drilled
- ☐ Sub-surface gold anomalism extends over more than 2km within a layered mafic complex
- ☐ Gold mineralisation confirmed between three, 80m-spaced sections and open to north, south and west
- Supergene and primary lode gold mineralisation defined
- Next steps include diamond drilling, to fully define gold mineralisation orientations and controls

## **Gold Discovery Success - Zeus**



- ☐ Shallow high-grade orogenic gold discovery
- ☐ Beneath ~8m of transported cover on a granted mining lease
- ☐ Discovery hole, ABFR0303\*: 10m at 12.97g/t Au from 42m
  - including

- 4m at 28.25g/t Au from 44m
- ☐ Gold mineralisation open in every direction
- □ ~1km long line of strong regolith gold anomalism
- Next steps include further RC drilling and diamond drilling



- Similar target zones identified under cover with exploration targeting in progress
- □ Knowledge gained from each gold exploration program is being applied to further unlock the full potential of the emerging GNCP gold camp

## **Investment Summary**



Ardea's KNP = unrivalled nickel and cobalt scale optionality (5.5Mt of nickel and 405kt of cobalt)



Globally significant nickel-cobalt resource in an **infrastructure-rich and stable jurisdiction**, provides ability to increase production from multiple processing hubs for the rapidly expanding Critical Minerals/LIB sector



100% off-take is available, with Company strongly leveraged to increasing nickel and cobalt demand



Highly prospective landholding in the Eastern Goldfields of Western Australia – Reiterated with recent Lily Albany and Zeus gold discoveries



WA based Team with track record of exploration, development and production success running active exploration programs for **nickel sulphides and gold** with a **pipeline of quality targets** 



Well funded to maintain momentum - Upcoming news flow to include nickel sulphide exploration, gold exploration at Lily Albany, Zeus and other targets, Kalgoorlie focussed gold spin-out, GNCP, Highway and KNP Ni-Co-Sc resource updates



## Thank you

For further information please visit:

www.ardearesources.com.au

or contact:

Andrew Penkethman

Managing Director & CEO

P: +61 8 6244 5136 E: ardea@ardearesources.com.au







#### **DEVELOPING**

the Kalgoorlie Nickel Project starting with Goongarrie Nickel-Cobalt

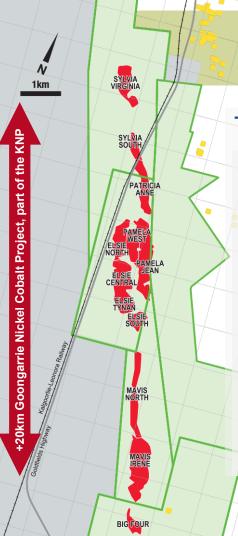
#### **EXPLORING**

for Gold and Nickel Sulphides within the Kalgoorlie Nickel Project

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

**APPENDICES** 





## **Goongarrie Nickel Cobalt Project**

The GNCP is part of the largest Nickel Cobalt Resource in the developed world^

- ☐ Potential multi-decade producer of high-quality nickel and cobalt products
- 1.0Mtpa base case PFS low CAPEX start-up with robust project economics\*
- 2.25Mtpa Expansion Study compelling project economics\*
- □ Low technical risk project to provide nickel and cobalt for the growing battery market
- □ DFS programs underway Feasibility work has extended into project expansion study "WINNER", Water, In-pit Neutraliser and Nickel Enhanced Reserve.
- This initiative leverages off Ardea's extensive and flexible reserve and resource base within the KNP, additional to its flagship GNCP which is focused on premium goethite ore type
- Strategic partner process current through KPMG − Ardea won't be rushed, Company has specific funding requirements to ensure the best outcome for Shareholders
- ☐ Ardea can provide **secure**, **ethical**, **long-term supply of battery grade nickel and cobalt**

## A High Quality Nickel and Cobalt Project

# Outstanding results delivered from PFS\* and Expansion Studies completed in 2018:

1.0Mtpa		1.5Mtpa	2.25Mtpa
Status	PFS	PFS	ES
No. Trains	1	1	1
Pre Tax NPV <sub>8</sub>	US\$ 1.13 billion	US\$ 1.52 billion	US\$ 2.4 billion
Pre Tax IRR	29 %	29 %	31%
CAPEX	US\$ 472 million	US\$ 588 million	US\$918 million
C1 cash cost	US\$ 0.42 / lb	US\$ 0.45 / lb	US\$ (0.34) / lb
Payback	5.3 years	5.6 years	5.1 years
Cobalt sulphate	5,500tpa	6,900tpa	10,000tpa
Nickel sulphate	41,500tpa	55,300tpa	81,000tpa

- ✓ PFS of 1Mtpa and 1.5Mtpa base case over a 25-year mine life completed
- ✓ Expansion study of 2.25Mtpa with a 25-year mine life completed
- √ 94.5% nickel and 95.5% cobalt recovery life of mine
- ✓ Pre-cobalt credit C1 costs in line with current worldwide operators
- ✓ Pressure Acid Leach (PAL) 5th generation plant is a proven design, successfully operated in other laterite projects globally
- ✓ 2.25Mtpa case based on only 26% of Goongarrie Resource



### **KNP Resource Breakdown**



#### KNP nickel-cobalt JORC Code (2012) Mineral Resource

Resource category	Size	Nickel	Cobalt	Contained metal	
	(Mt)	(%)	(%)	Ni (t)	Co (t)
Measured	9.6	1.02	0.10	98,800	9,700
Indicated	232.9	0.75	0.06	1,759,700	141,200
Inferred	530.5	0.68	0.05	3,600,000	254,400
TOTAL	773.0	0.70	0.05	5,458,400	405,400

Note: 0.5% nickel cutoff grade used to report resources. Note figures are rounded to reflect degree of certainty and may not tally. The information shown on this slide has been previously released on the ASX platform by Ardea in ASX release, Ardea Annual Report 2019, 24 October 2019.

In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A:

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



The information in this report that relates to Mineral Resources for the Siberia North, Bulong East, Siberia, Black Range, Taurus and Jump Up Dam Prospects is based on information compiled by Snowden Mining Industry Consultants by members of the Australian Institute of Mining and Metallurgy. Snowden Mining Industry Consultants had sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the resource estimation activity. All resources were internally audited by Snowden and signed off by a person of sufficient experience to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steve Jones has validated the original resource estimates during 2013. Steve Jones consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Note that Mineral Resources that are not Ore Reserves do not have demonstrated viability.

## **Goongarrie Nickel Cobalt Project Resources**

Summary of total mineral resource from the Goongarrie Nickel Cobalt Project area, comprising resources at Goongarrie Hill, Goongarrie South, Big Four and Scotia Dam (ASX release 14 March 2018).

Camp	Domains	Cut-off %	Resource category	Size (Mt)	Nickel (%)	Cobalt (%)	Containe Ni (t)	d metal Co (t)
Goongarrie Hill	Ni & Co	> 0.5% Ni or > 0.08% Co	Inferred	52.5	0.65	0.04	340,400	21,600
ŭ			Subtotal	52.5	0.65	0.04	340,400	21,600
Goongarrie South	Ni & Co	≥ 0.5%Ni or > 0.08% Co	Measured	10.3	0.98	0.10	101,200	10,200
			Indicated	56.2	0.72	0.07	407,000	37,200
			Inferred	32.2	0.69	0.06	221,200	20,300
			Subtotal	98.7	0.74	0.07	729,300	67,700
Big Four	Ni & Co	≥ 0.5%Ni or > 0.08% Co	Indicated	45.5	0.71	0.06	320,700	28,200
			Inferred	9.9	0.63	0.06	61,900	6,100
			Subtotal	55.4	0.69	0.06	382,700	34,300
Scotia Dam	Ni & Co	≥ 0.5% Ni or > 0.08% Co	Indicated	3.3	0.81	0.09	26,900	3,000
			Inferred	5.7	0.76	0.07	43,300	4,100
			Subtotal	9.0	0.78	0.08	70,200	7,100
Total	All	≥ 0.5% Ni or > 0.08% Co	Measured	10.3	0.98	0.10	101,200	10,200
			Indicated	105.0	0.72	0.07	754,600	68,400
			Inferred	100.3	0.67	0.05	666,900	52,100
Goongarrie Resource	e Global		TOTAL	215.6	0.71	0.06	1,522,700	130,700



Note: All nickel and cobalt domains are included and are encapsulated by an envelope defined by nickel grades equal to or greater than 0.5%. Note figures are rounded to reflect degree of certainty and may not tally.

# Reserves Defined for Goongarrie Nickel Cobalt Project\*

Goongarrie Nickel Cobalt Project, Ore Reserves based on 25 year mine life at 1.5 Mtpa.

Danasita	Class	Size	Nickel	Cobalt
Deposits		(Mt)	(%)	(%)
Goongarrie South	Proven	8.95	0.96%	0.10%
	Probable	17.26	0.79%	0.09%
	Total	26.22	0.85%	0.10%
Big Four	Proven	_	_	_
	Probable	13.92	0.77%	0.09%
	Total	13.92	0.77%	0.09%
TOTAL	Proven	8.95	0.96%	0.10%
	Probable	31.18	0.78%	0.09%
	Total	40.13	0.82%	0.09%

Using a nickel equivalent cut of >0.81%, which used inputs of A\$18,900/t nickel and A\$120,750/t cobalt. (US\$15,120/t Ni and US\$96,600/t Co, 0.8 exchange rate). Nickel equivalent (Nieq %) =

Ni grade + Co grade × Co price Ni price
Prices used are US\$15,120/t for nickel and US\$96,600/t for cobalt. No assumption about recovery is included here. Recoveries are addressed elsewhere throughout the mining schedule and financial model.

\*The information shown on this slide has been previously released on the ASX platform by Ardea in ASX release, Goongarrie Nickel Cobalt Project, PFS study, 28 March 2018. The information in this report that relates to Ore Reserves for the Goongarrie South and Big deposits of the Goongarrie Nickel Cobalt Project is based on information compiled by Mr Steve Lampron who is a Member of the Australasian Institute of Mining and Metallurgy and who has provided expert guidance on mine planning and Ore Reserve estimation. Mr Lampron is a director of Auralia Mining Consulting and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Lampron consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.



## **Big Four Gold Resource**



#### Big Four Gold, (JORC 2012) Mineral Resource (14 May 2020)

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

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

In accordance with the Australian Securities Exchange Limited Listing Rules Appendix 5A:

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

