A globally significant source of nickel-cobalt and scandium in **Western Australia.**

Ardea Resources

RIU EXPLORERS CONFERENCE

February 2021

Globally significant Nickel, Cobalt and Scandium resource, Critical Minerals, nickel sulphides and gold from the Kalgoorlie Nickel Project

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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), Ardea Annual Report 2019 (24 October 2019), Ardea Quarterly Operations Report, for the quarter ended 30 September 2019 (31 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 (27 October 2020), “Lily Albany” gold discovery confirmed by RC drilling at Aphrodite North (29 October 2020), High-grade, shallow gold discovery at Zeus (9 November 2020), Quarterly Activities Report - December 2020 (21 January 2021), GNCP High Grade Resource - 60 million tonnes at 1.0% nickel (15 February 2021).

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.

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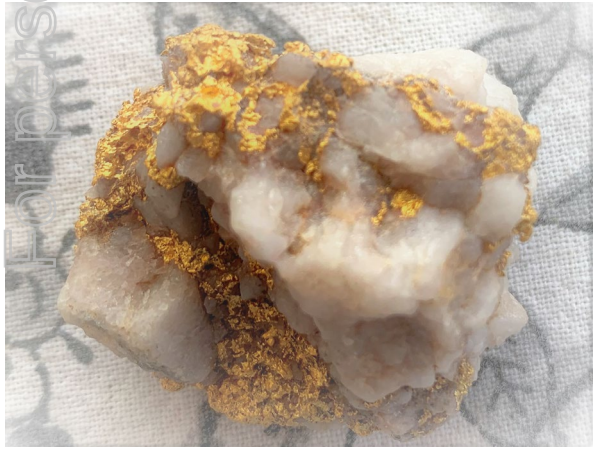
The Goongarrie Project has completed the Pre-Feasibility Study phase and has commenced programs that are part of the Definitive Feasibility Study. Though reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be 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



- Globally significant Nickel, Cobalt and Scandium resource and Critical Minerals
- Essential for new age technologies to meet the needs of modern society which demand ethical and sustainable mineral supply for a low carbon future
- Ardea perfectly placed to meet these needs with the Kalgoorlie Nickel Project, multiple feasibility programs current, notably metallurgical studies, seeking a funding Strategic Partner
- Pipeline of Nickel and Critical Mineral exploration opportunities with field work underway
- Large, strategic 100% owned land holding in the premier mine operating jurisdiction, Western Australia
- Outstanding nickel sulphide and gold exploration opportunities within mostly granted mining lease tenure
- Two new gold discoveries confirmed and lodged with State Government in December Quarter 2020

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Corporate Summary

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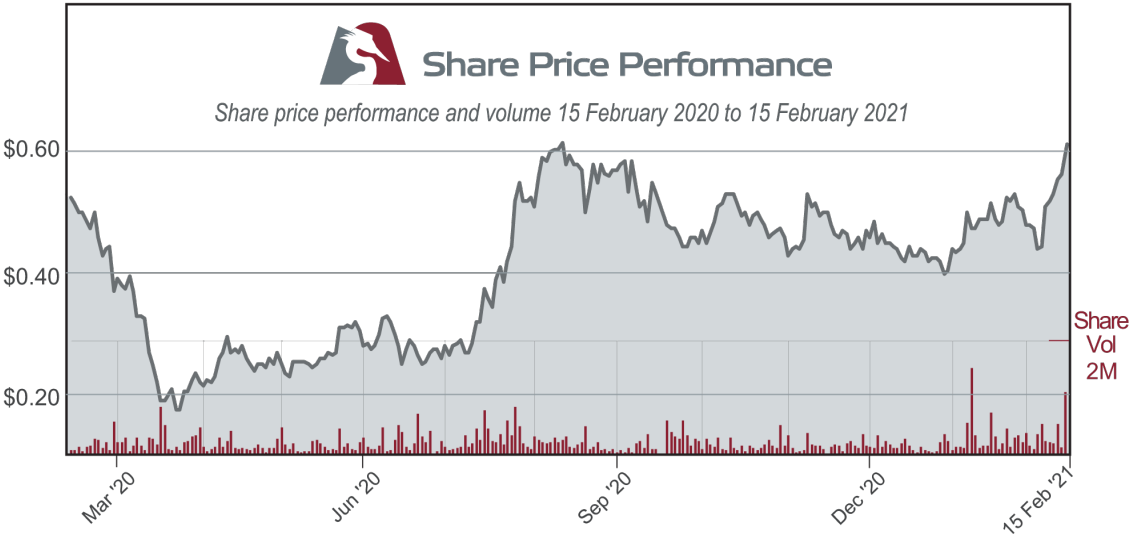
Capital Structure, as at 15 February 2021	
ASX Code	ARL
Shares on Issue	127,670,582
Share Price	$0.61
52 week high / low	$0.63 / $0.17
Cash (as at 31 Dec 2020)	$10.9 million
Market Capitalisation	$78 million
Largest Shareholder	~10% equity
Top 40 Shareholders	~60% equity

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



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

Prime Location and Jurisdiction

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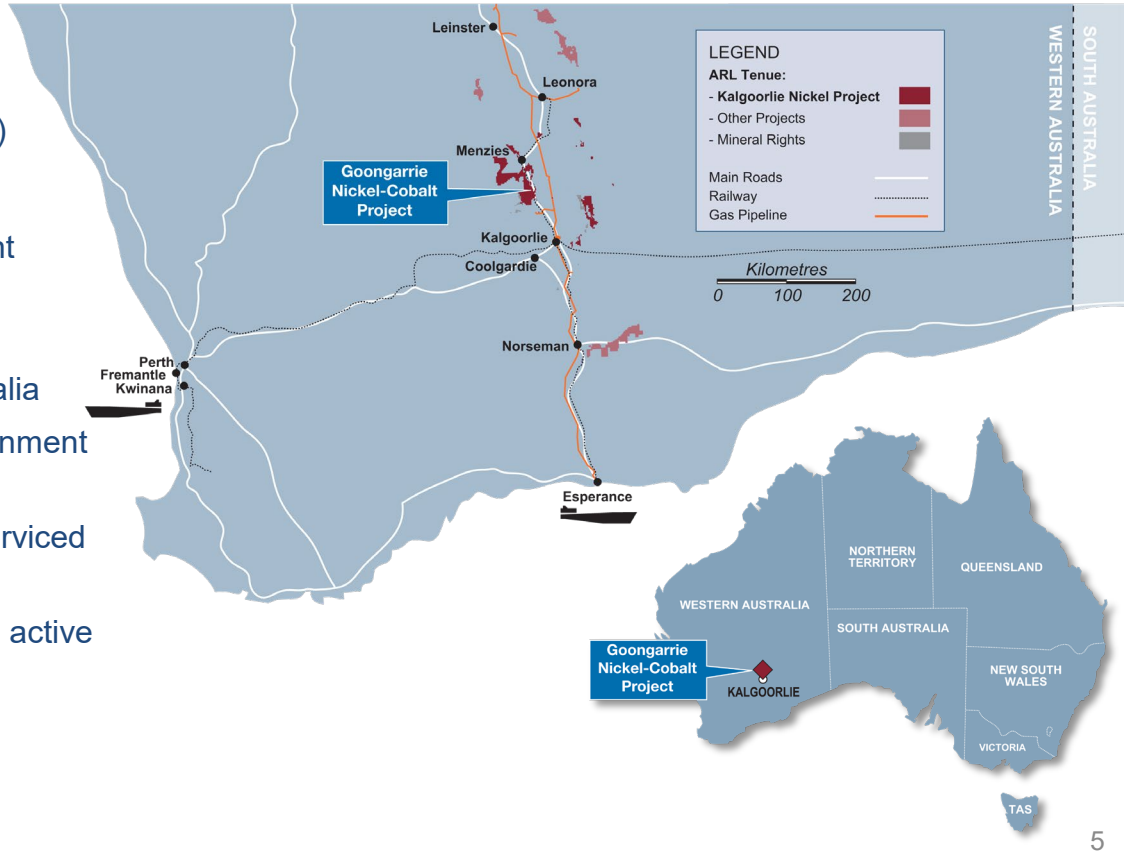
- All Ardea Projects located in Western Australia (WA)
- >4,000km^2 ground position in Eastern Goldfields
- WA is the premier global destination for development of minerals operations
- City of Kalgoorlie-Boulder is the prime resource development and operating destination within Australia
  - Very strong mining support from Local Government and community
  - Multitude of world-class mining operations serviced from the City
  - Ardea maintains a local operations office and active stake holder engagement



Ardea with its flagship KNP and subset GNCP Ni-Co-Sc resource, is poised for ethical and sustainable supply of Critical Minerals for a low carbon future

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Ardea pilot plant nickel sulphate crystal production, September 2018

Nickel and the Inevitable Rise in Demand

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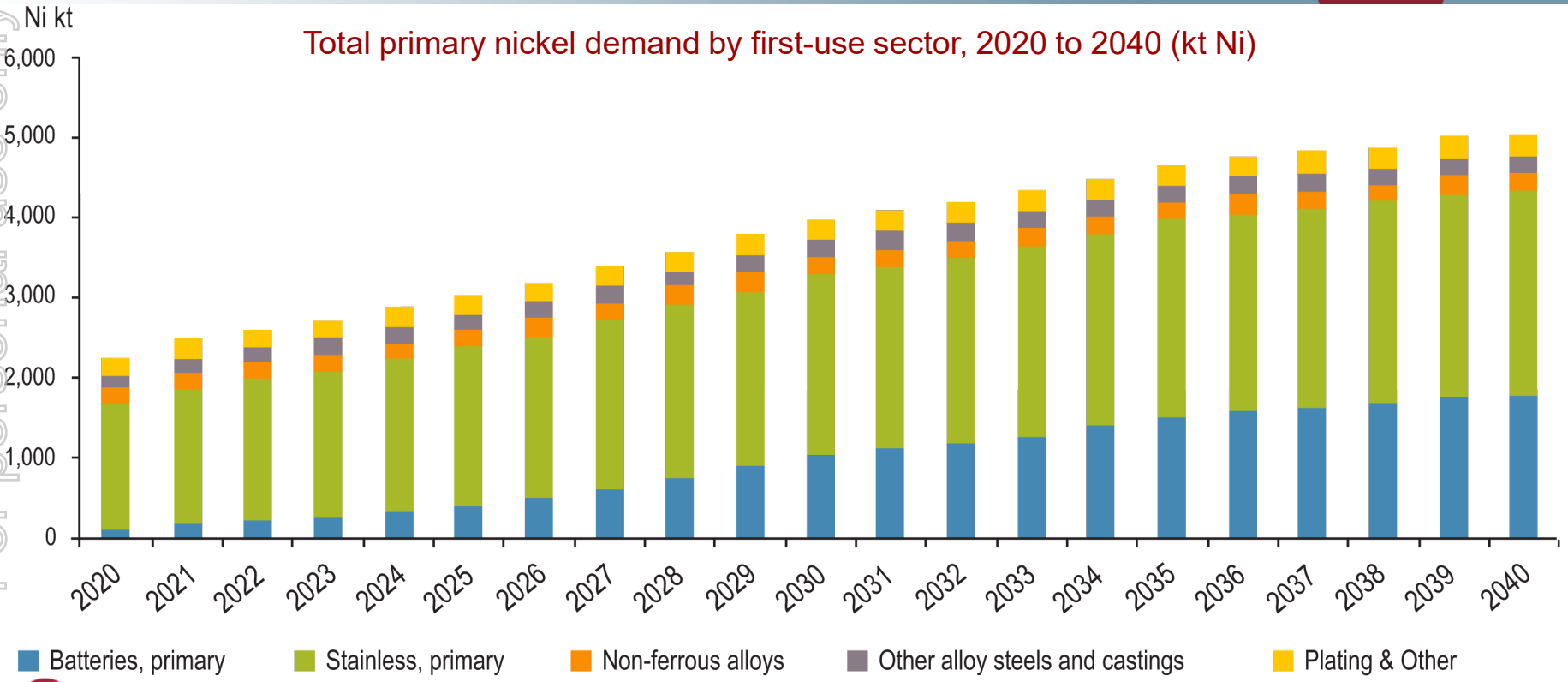
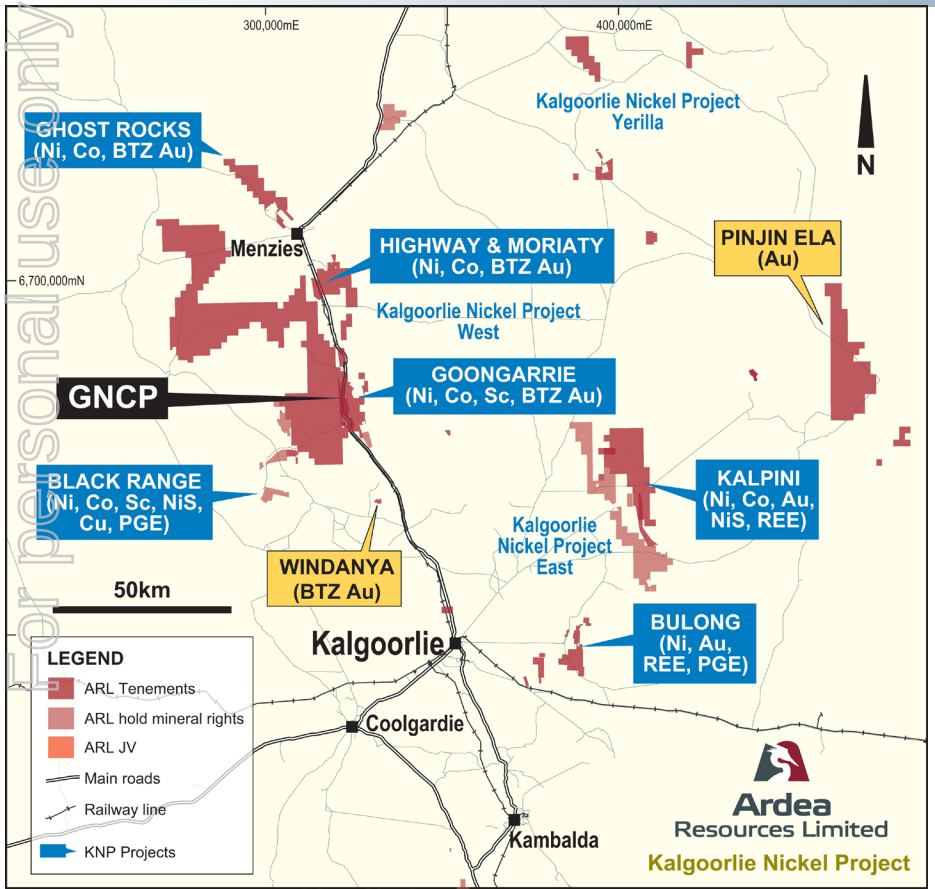


Source: Roskill, 2020

The Kalgoorlie Nickel Project



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Kalgoorlie Nickel Project (KNP) Mineral Resource

826Mt at 0.7% Ni and 0.046% Co*

5.8 Million tonnes contained **Nickel**

384,000 tonnes contained **Cobalt**

Goongarrie Nickel Cobalt Project (GNCP) Mineral Resource

259Mt at 0.7% Ni and 0.046% Co*

and a maiden scandium component of

74Mt at 35ppm Sc

1.8 Million tonnes contained **Nickel**

119,200 tonnes contained **Cobalt**

2,590 tonnes contained Scandium

GNCP High grade component

60Mt at 1.0% Ni and 0.074% Co

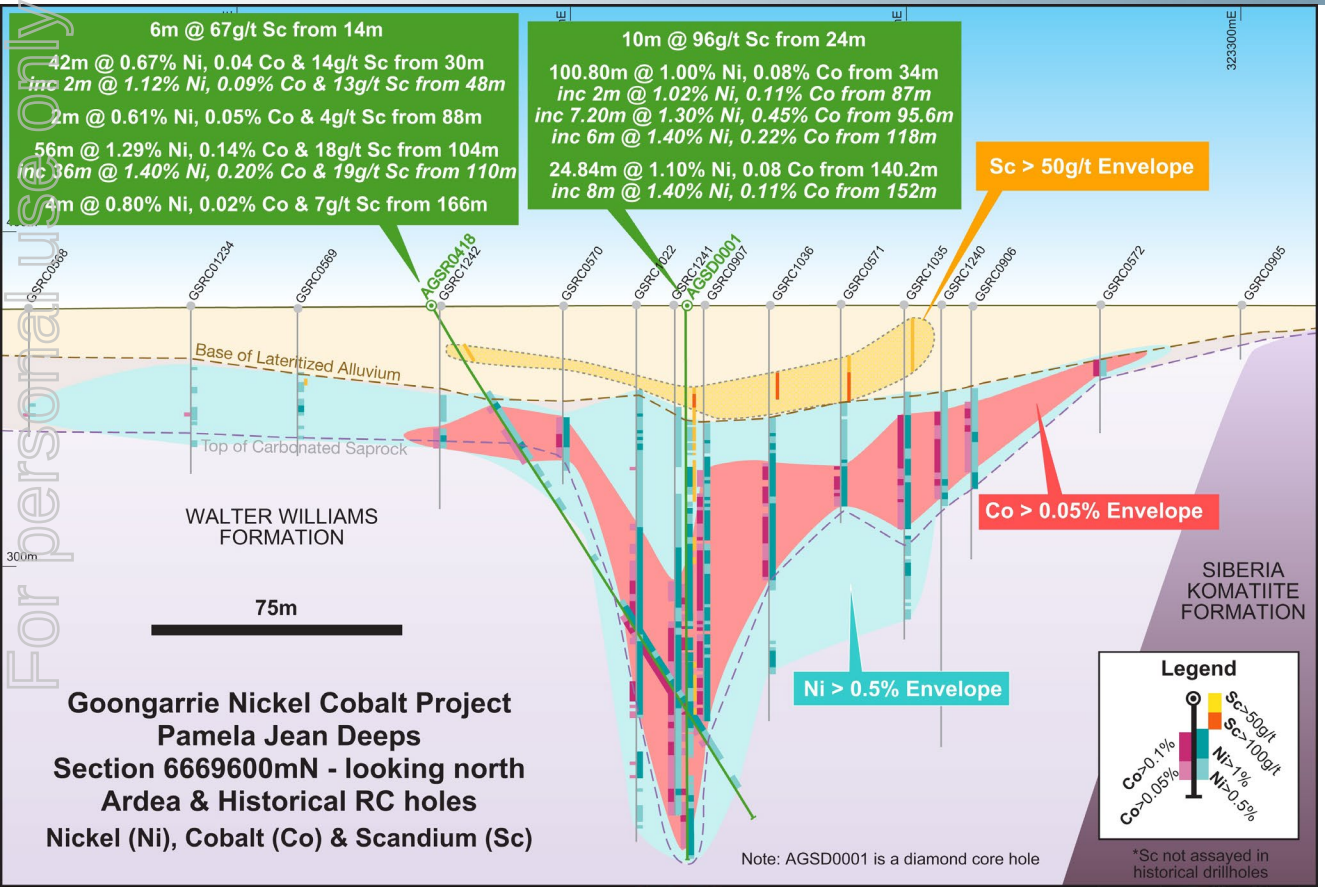
595kt contained **Nickel**

44kt contained **Cobalt**

Globally significant nickel and cobalt Mineral Resource

* See Appendix for resource breakdown and ASX release 15 February 2021.

Optimum Resource Scale



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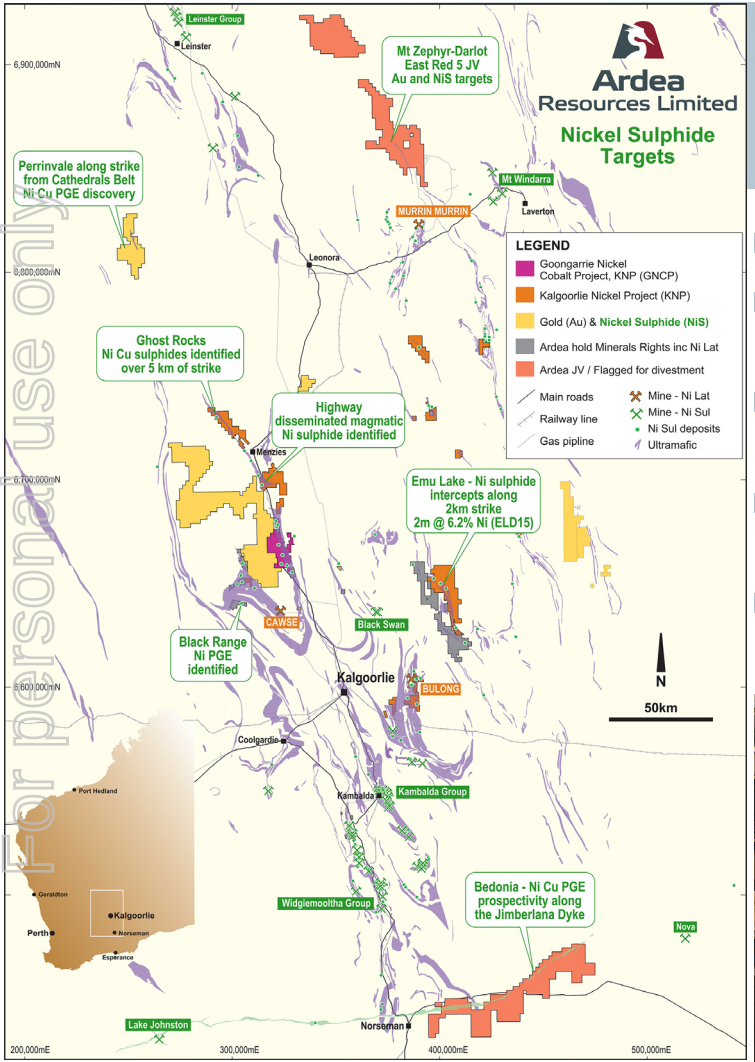
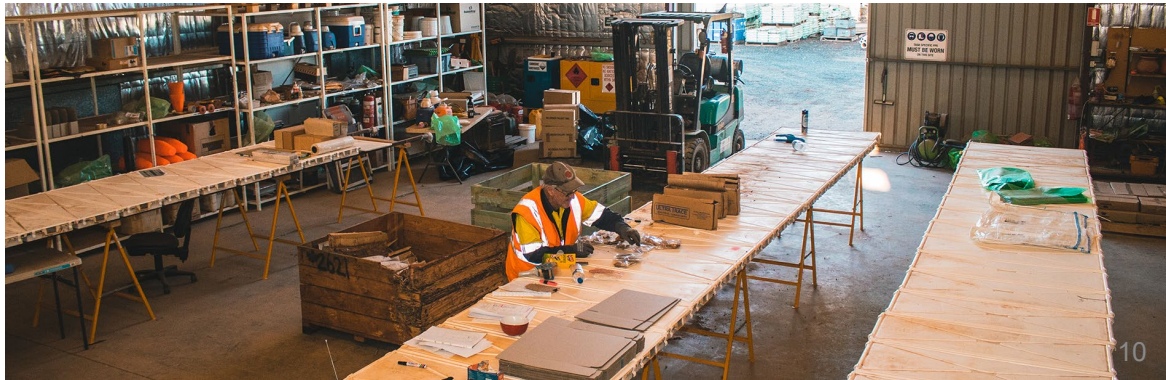
- GNCP resource update based on high grade mining strategy (>1% nickel)
- With 5.8Mt contained nickel, easily accommodated within the KNP starting with the GNCP
  - Capability for >100 year potential supply of Ni, Co, Sc resource
- KNP well suited for latest battery technology, NMC 811 LIB (8 parts Ni, 1 part Mn, 1 part Co)
- GNCP has produced MSP and sulphates from pilot plant and can produce MHP or PCAM to suit needs of Strategic Partner

Regional Location – Nickel Sulphide Projects



- **Highly prospective for nickel sulphide mineralisation**
- Ardea's KNP tenure is one of the largest land holdings over ultramafic stratigraphy in Australia
- Archaean Eastern Goldfields Province – prolific ultramafic flows hosting numerous nickel sulphide deposits
- Multiple compelling nickel sulphide targets defined ranging from Kambalda style komatiites to Julimar style layered mafic/ultramafic intrusive complexes
- Exploration programs underway including EM and IP surveys - Drilling to follow



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Emu Lake Project – Binti Nickel Sulphide

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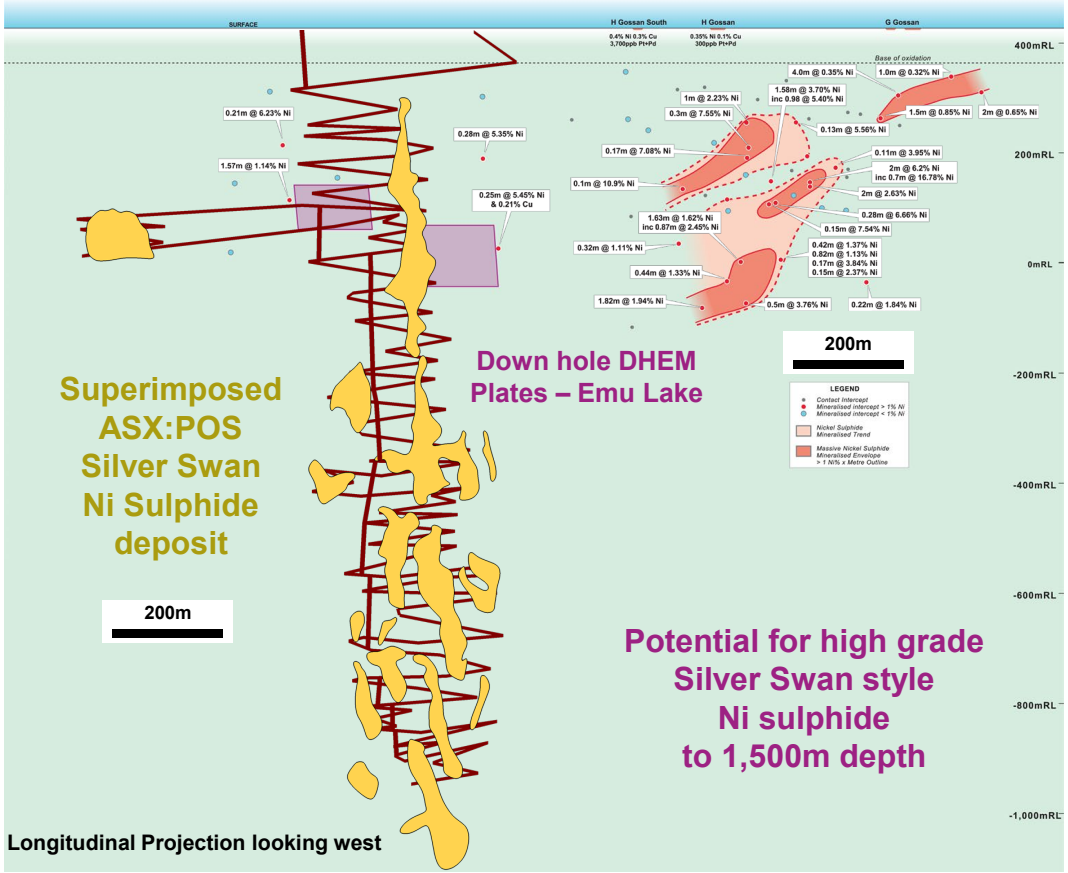
- Review of historic data has highlighted high-grade nickel sulphide and a number of DHEM off-hole conductors
- Priority target drill tested in December 2020 (AELD0001) and intersected a 0.65m stringer of remobilised nickel sulphide mineralisation from 336.7m. Target footwall zone appeared to be stoped out by late stage dolerites. Assays pending
- Additional DHEM work underway to find primary source of high-grade nickel sulphide



ASX:ARL Emu Lake Ni Sulphide

500m Open

Emu Lake Project – Binti Gossan Zone LS

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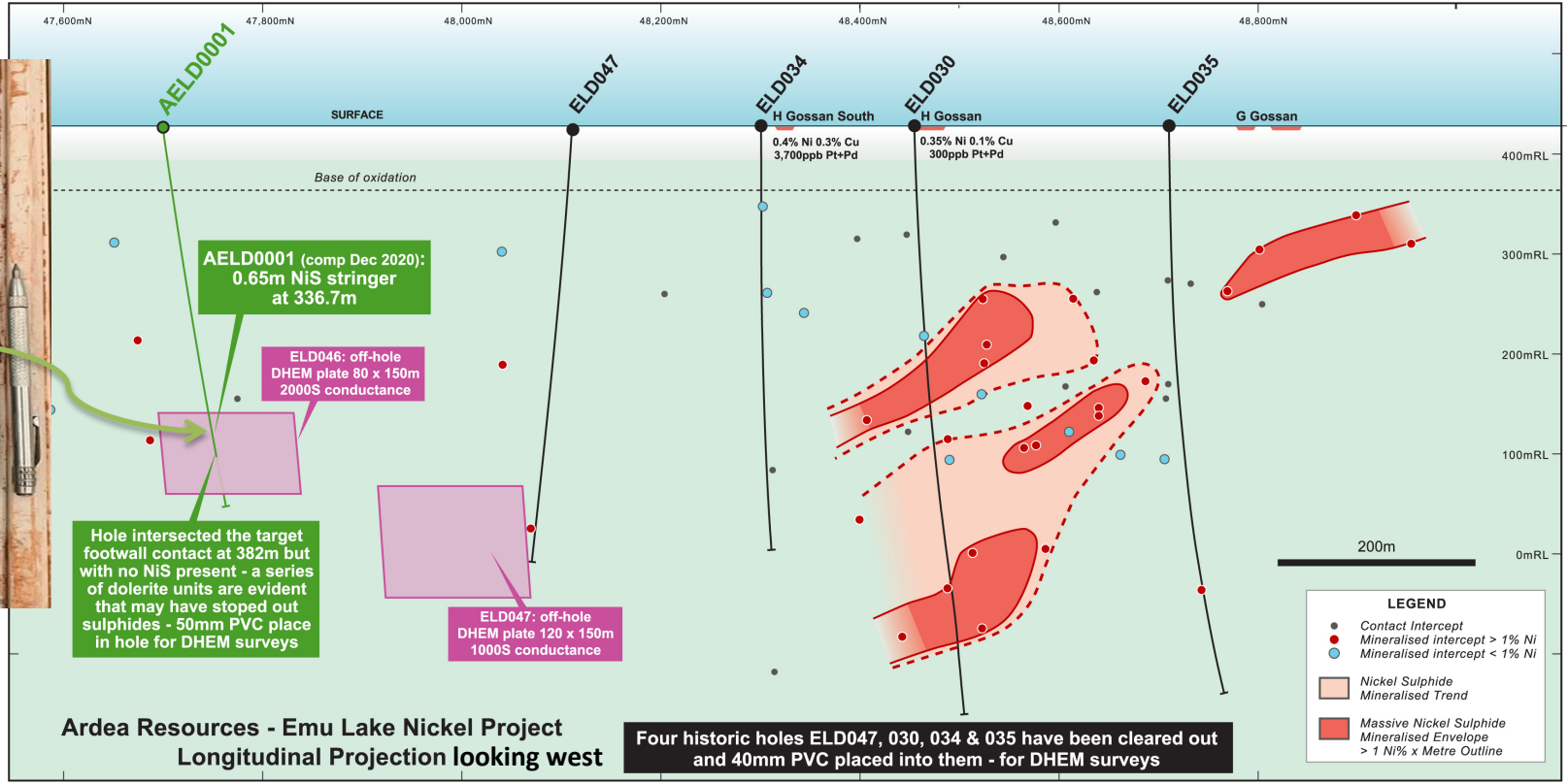
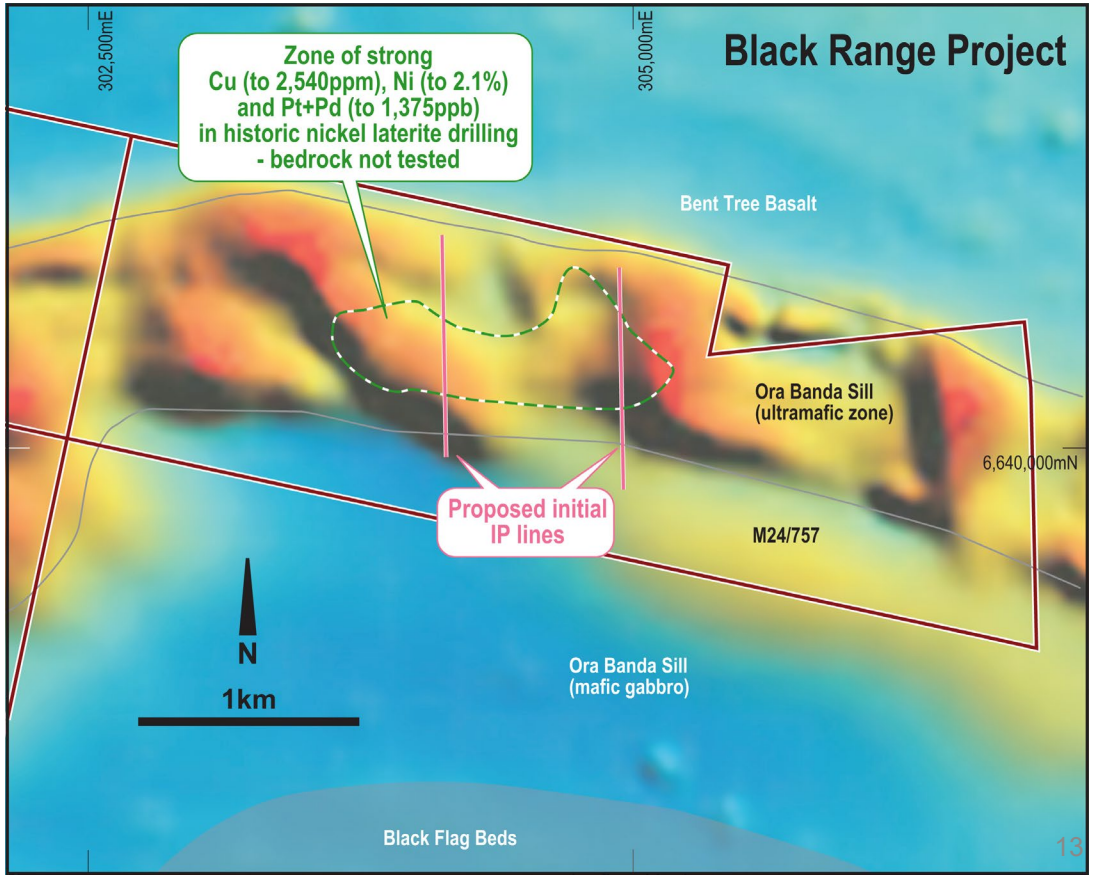


Black Range Project

- 65km north-west of Kalgoorlie on a granted mining lease
- Strongly anomalous Ni, Cu and PGEs within the regolith profile from historic nickel laterite drilling
- Within the differentiated Ora Banda Sill close to the contact between the lower ultramafic zone and the upper mafic-gabbro zone
- Cu to 2,540ppm, Ni to 2.1% and Pt + Pd to 1.4g/t in drill sampling
- Targeting nickel sulphide mineralisation associated with this large mafic/ultramafic sill
- Proposing two initial lines of Induced Polarisation testing to define sulphide zones at depth, prior to drill testing any defined targets



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Regional Gold Projects

Aim: To use the area's exceptional gold potential to maximise return to shareholders

Vision: Parallel development of the GNCP nickel-cobalt mines and a series of gold mines within Ardea's extensive mining licences

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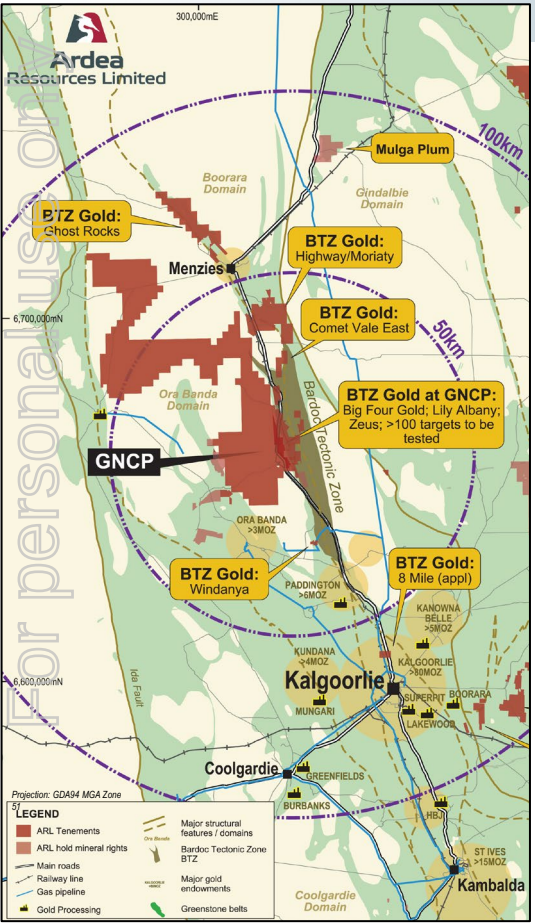
An emerging gold camp at Goongarrie South



- Detailed reappraisal of Ardea's Nickel-Cobalt mining leases for gold
  - The regional-scale Bardoc Tectonic Zone is host to numerous major gold deposits and passes beneath GNCP tenure and nickel deposits
  - New discoveries through reassessment of public and proprietary datasets to drill targets with little or no historic exploration
- Ongoing efforts to define a new, buried gold camp at Goongarrie South:
  - **Lily Albany – virgin discovery beneath cover**
  - **CSIRO collaboration** examining gold anomalism within and beneath the nickel-cobalt deposits
  - **Zeus** – new hits beneath historic gold anomalism
  - **Big Four Gold** – historic workings being reassessed
  - **>100 gold targets defined and being explored –** 2 drill rigs currently operating
  - **Multiple Ardea discoveries in 2020**, low discovery costs

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New discoveries from active programs

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Ardea's gold discoveries and resources are all on GNCP mining tenure

1. Lily Albany – *virgin discovery under cover, drilling ongoing*

- AARN0001 – **6m at 3.60g/t Au** (from 44m) and **8m at 4.94g/t Au** (from 172m), AANR0008 – **10m at 3.55g/t Au** (from 40m)
- Supergene and primary lode gold over 2km strike, layered mafic complex host

2. Zeus – *historic anomalism reappraised reveals shallow high-grade gold*

- ABFR0303 – **10m at 12.97g/t Au** from 42m, *including* **4m at 28.25g/t** Au from 44m
- ~1km line of strong regolith gold anomalism. Open in all directions

3. Big Four Gold – *historic workings show shallow mining potential*

- Maiden JORC Code (2012) Mineral Resource: **178kt at 2.7g/t gold (15,300 oz gold)** (Inferred Mineral Resource, 0.5g/t Au cut off)
- 2020 results include **18m at 3.38g/t** gold from 18m, **14m at 2.40g/t** gold from 6m, **20m at 2.91g/t** gold from 76m
- Open down plunge, more drilling required. Metallurgically benign. Overall gold extractions of 97.7%.

1. ASX release 29 October 2020.
2. ASX release 9 November 2020.
3. ASX release 26 February 2020 & 14 May 2020.

Investment Summary

Ardea's KNP = unrivalled nickel, cobalt and scandium scale optionality (**5.8Mt of nickel and 384kt of cobalt**)

Globally significant nickel-cobalt-scandium resource in an **infrastructure-rich and stable jurisdiction,** provides ability to produce **ethical and sustainable** minerals from multiple processing hubs for the rapidly expanding Critical Minerals/LIB sector, feasibility programs current

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 – confirmed with recent Ardea 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, gold and Critical Minerals** with a **pipeline of quality targets**

Well funded to maintain momentum - Upcoming news flow to include **nickel sulphide exploration**, **gold exploration**, **Kalgoorlie focussed gold spin-out**, Highway and KNP **nickel, cobalt and scandium resource updates**

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Thank you

For further information please visit: **www.ardearesources.com.au**
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A globally significant source of nickel-cobalt and scandium in Western Australia.

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APPENDICES

Optimum location for ensuring ethical and sustainable mineral supply

- Large contiguous KNP/GNCP 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 ocean submarine tailings disposal
  - No valley-fill tailings dams
  - No active seismicity issues
- 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

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A High-Quality Nickel and Cobalt Project

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Outstanding results delivered from PFS* and Expansion Studies:

	1.0Mtpa	1.5Mtpa	2.25Mtpa
Status	PFS	PFS	**ES**
No. Trains	1	1	**1**
Pre Tax NPV_8	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
- ✓ High Pressure Acid Leach (HPAL) 5th generation plant is a proven design, successfully operated in other laterite projects globally
- ✓ 2.25Mtpa case based on only 26% of Goongarrie Resource
- ✓ Scandium by-product credit not factored in, so offers additional up-side

The information shown on this slide has been previously released on the ASX platform by Ardea in ASX releases, *Goongarrie Nickel Cobalt Project, PFS study, 28 March 2018 & +Goongarrie Expansion Study, 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.

KNP Resource Breakdown

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Kalgoorlie Nickel Project nickel-cobalt JORC Code (2012) Mineral Resource (ASX release 15 February 2021).

Camp	Prospect	Resource Category	Size (Mt)	Ni (%)	Co (%)	Contained Metal Ni (kt)	Contained Metal Co (kt)
KNP TOTAL		Measured	22	0.94	0.079	207	17
		Indicated	339	0.72	0.048	2,446	163
		Inferred	465	0.68	0.044	3,165	203
	GRAND TOTAL	***Combined***	***826***	***0.70***	***0.046***	***5,817***	***384***

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 15 February 2021.

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

The information in this report that relates to KNP Exploration Results is based on information originally compiled by previous full time employees of Heron Resources Limited and or Vale Inco. 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 an executive 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 information in this report that relates to Mineral Resources for the Goongarrie Hill, Goongarrie South, Big Four and Scotia Dam nickel-cobalt deposits that comprise the Goongarrie Nickel Cobalt Project is based on information compiled by Mr James Ridley who is a Member of the Australasian Institute of Mining and Metallurgy, a full time employee of Ardea Resources 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 Ridley consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

Goongarrie Nickel Cobalt Resources

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Summary of Mineral Resource from the Goongarrie Nickel Cobalt Project area, based on a 0.8% Ni cut-off grade, comprising resources at Goongarrie Hill, Goongarrie South, Big Four and Scotia Dam (ASX release 15 February 2021).

Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal Ni (kt)	Contained Metal Co (kt)	Sc Resources Mt	Sc Resources Sc ppm
Goongarrie Hill	Indicated	5.3	0.92	0.050	49	2.6	2.4	17
	Inferred	1.9	0.92	0.034	17	0.6	0.4	16
	Subtotal	7.2	0.92	0.046	66	3.3	2.8	17
Goongarrie South	Measured	11.0	1.13	0.106	125	11.6	11.0	39
	Indicated	21.1	0.99	0.071	208	15.0	15.5	25
	Inferred	1.2	0.92	0.043	11	0.5	0.5	25
	Subtotal	33.3	1.03	0.081	344	27.1	27.0	31
Big Four	Indicated	12.1	0.97	0.068	118	8.3	8.9	27
	Inferred	2.7	0.94	0.062	25	1.7	0.5	27
	Subtotal	14.7	0.97	0.067	143	9.9	9.4	27
Scotia Dam	Indicated	2.9	0.98	0.108	29	3.2	2.9	28
	Inferred	1.4	1.02	0.057	14	0.8	0.0	26
	Subtotal	4.3	0.99	0.091	43	4.0	2.9	28
GNCP Total	Measured	11.0	1.13	0.106	125	11.6	11.0	39
	Indicated	41.5	0.97	0.070	404	29.0	29.7	25
	Inferred	7.1	0.95	0.051	67	3.6	1.4	23
	Grand Total	**59.6**	**1.00**	**0.074**	**595**	**44.3**	**42.2**	**29**

Note: GNCP nickel, cobalt and scandium Mineral Resources based on a 0.8% Ni cut-off grade
Note figures are rounded to reflect degree of certainty and may not tally.

Goongarrie Nickel Cobalt Resources

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Summary of total Mineral Resource from the Goongarrie Nickel Cobalt Project area, based on a 0.5% Ni cut-off grade, comprising resources at Goongarrie Hill, Goongarrie South, Big Four and Scotia Dam (ASX release 15 February 2021).

Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal Ni (kt)	Contained Metal Co (kt)	Sc Resources Mt	Sc Resources Sc ppm
Goongarrie Hill	Indicated	40	0.65	0.037	260	14.7	10.5	16
	Inferred	29	0.60	0.025	178	7.3	2.0	16
	Subtotal	69	0.63	0.032	438	21.9	12.5	16
Goongarrie South	Measured	18	0.94	0.085	172	15.4	18.2	40
	Indicated	82	0.71	0.049	587	40.2	53.1	23
	Inferred	10	0.64	0.033	61	3.1	5.5	24
	Subtotal	110	0.75	0.053	820	58.7	76.8	27
Big Four	Indicated	49	0.71	0.047	345	22.9	31.9	24
	Inferred	14	0.68	0.043	95	6.1	2.9	24
	Subtotal	63	0.70	0.046	440	28.9	34.8	24
Scotia Dam	Indicated	12	0.71	0.065	82	7.4	11.2	25
	Inferred	5	0.72	0.043	37	2.2	0.6	22
	Subtotal	17	0.72	0.058	118	9.6	11.7	25
GNCP Total	Measured	18	0.94	0.085	172	15.4	18.2	40
	Indicated	182	0.70	0.047	1,274	85.1	106.6	23
	Inferred	58	0.64	0.032	371	18.6	11.0	23
	Grand Total	**259**	**0.70**	**0.046**	**1,817**	**119.2**	**135.8**	**25**

Note: GNCP nickel, cobalt and scandium Mineral Resources based on a 0.5% Ni cut-off grade.
Note figures are rounded to reflect degree of certainty and may not tally.

Big Four Gold Resource

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

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

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.