Ardea Resources Limited

ASX & Media Release
27 July 2023

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
Mat Longworth
Non-Executive Chair

Andrew Penkethman
Managing Director & CEO

Ian Buchhorn
Executive Director

Maree Arnason
Non-Executive Director

Executive Management
Sam Middlemas
Company Secretary

Rebecca Moylan
Chief Financial Officer

Matt Read
Project Director

Alex Mukherji
General Manager Land Access & Compliance

Mike Miller
General Manager Technical Services

Matthew McCarthy
General Manager Exploration

Issued Capital
Fully Paid Ordinary Shares
171,894,772

Performance Rights
6,690,000

Options
4,000,000

ABN 30 614 289 342

For personal use only

QUARTERLY OPERATIONS REPORT

For the Quarter ended 30 June 2023

Ardea Resources Limited (ASX:ARL) (**Ardea** or the **Company**) is pleased to provide the following report on its activities during the June 2023 Quarter.

JUNE 2023 QUARTER HIGHLIGHTS

$10.6M cash-at-bank, no debt, tight capital structure, and supportive share register seeking development of the Kalgoorlie Nickel Project (**KNP**).

Kalgoorlie Nickel Project

The KNP Goongarrie Hub Pre-Feasibility Study (**PFS**) was completed during the Quarter and announced concurrently with a non-binding Memorandum of Understanding (**MOU**) with the Consortium of Sumitomo Metal Mining Co., Ltd, Mitsubishi Corporation, and Mitsui & Co., Ltd (Ardea ASX announcements 5 July 2023). In so doing, Ardea has been able to demonstrate the global significance of the Goongarrie Hub and a pathway to fully funding and completing the Definitive Feasibility Study (**DFS**), making a Final Investment Decision, and securing project development funding, working with three of Japan's most respected companies.

PFS highlights include:

- Proven High Pressure Acid Leach (**HPAL**) and Atmospheric Leach (**AL**) flowsheet using technology successfully deployed at existing operations
- Ore Reserve 194.1Mt at 0.70% Ni and 0.05% Co for 1.36Mt of contained nickel and 99,000t of contained cobalt[1]
- Mining optimisation studies have projected production of approximately 30,000t of nickel and 2,000t of cobalt per annum for more than 40 years. Year 1 to 5 (post ramp up) production >34ktpa nickel and >3ktpa cobalt[2]
- Conventional low-cost open pit mining methods result in mining costs comprising less than 12% of total operating cost with a very low strip ratio at an average of 1.5:1 for the first 35 years of mine life[2]
- The project is estimated to generate[2]:
  - Pre-tax NPV7 of A$7,625M and IRR of 30%
  - Post- tax NPV7 of A$4,980M and IRR of 23%
  - Average Annual EBITA of A$800M
  - Project pay back within 3.1 years
- Direct cash cost after Co by-product credit of US$3,763/t Ni in MHP during the first five years of operation, and US$5,763/t Ni in MHP over life of mine[2]
- Total capital cost of A$3,117m, including process plant and infrastructure cost of A$2,264M and sulphuric acid, steam, and power plant cost of $574M[3]
- Life Cycle Assessment (**LCA**) is expected to be 11.9 kg CO_2 eq. per kg nickel in MHP based on Ardea's Scope 1, 2 and upstream Scope 3 emissions[3]
- In-pit tailings disposal minimises environmental footprint and enables mine site rehabilitation, concurrent with steady-state mine operation

[1] See Section 5 of the 5 July PFS announcement for detailed Ore Reserve table and Appendix 1.
[2] See Section 14 of the 5 July PFS announcement for detailed notes on the financial metrics which include inputs of US$25,000/t nickel price, US$60,000/t cobalt price and exchange rate of 0.67 AUD:USD. Direct cash cost excludes royalties and includes third party freight charges and cobalt credit.
[3] See Section 13 of the 5 July PFS announcement for detailed notes on the LCA.

For personal use only

Ardea Managing Director, Andrew Penkethman noted:

"The June Quarter has been transformational for the Ardea Team as we have delivered on multiple work streams, including the Kalgoorlie Nickel Project Mineral Resource Estimate update, Goongarrie Hub PFS and the MOU with the Consortium, consisting of Sumitomo Metal Mining Co., Ltd, Mitsubishi Corporation, and Mitsui & Co., Ltd.

The PFS has confirmed a large scale, strategic, cost competitive, long life development project and the MOU demonstrates our intent to work with the most successful nickel laterite development and operating company in the World in Sumitomo Metal Mining and secure long tenor, low interest rate Export Credit Agency debt to develop a globally significant nickel-cobalt project in the best resources sector operating jurisdiction in the World."

Strategic Partner Process

Ardea's Strategic Partner strategy is linked to DFS and project development funding to enable the KNP Goongarrie Hub to be developed and realise its full potential as a long life (>40 years) source of nickel-cobalt, from the premier resources operating jurisdiction, being the Eastern Goldfields of WA.

Ardea is working closely with Sumitomo Metal Mining Co., Ltd, Mitsubishi Corporation, and Mitsui & Co., Ltd, the Consortium (ASX announcement 5 July 2023), to define a scope of work for the DFS and jointly complete this undertaking, with the Consortium funding the DFS upon the parties agreeing on the DFS scope before the end of the September Quarter 2023.

Following the completion of the DFS, Ardea and the Consortium will work towards making a Final Investment Decision and securing project development funding, with a focus on Australian and foreign Export Credit Agency (**ECA**) long tenor, low interest rate debt.

The Consortium will look to ultimately earn a significant interest in a joint venture which will develop and operate the KNP Goongarrie Hub and will have certain off-take rights. The final binding terms of a proposed joint venture are currently being negotiated between Ardea and the Consortium.

Ardea and the Consortium have agreed certain exclusivity arrangements, which end before the end of the December Quarter 2023 (unless extended by agreement between Ardea and the Consortium), subject to transaction timelines being met.

Under the exclusivity provisions, Ardea may continue discussions with other interested parties that had already commenced due diligence under the Strategic Partner process until the Consortium completes its due diligence, with expected completion before the end of the September Quarter 2023 (unless extended by agreement between Ardea and the Consortium).

Multiple potential Partners have been waiting for Ardea to complete the Goongarrie Hub PFS and are now accelerating their due diligence and working with Ardea in trying to secure nickel-cobalt off-take from the KNP Goongarrie Hub.

Ardea continues to work with the preferred Partner/s to refine the scope of work for the DFS, so that the final DFS flowsheet and end-product specifications meet the Partners' needs.

Nickel Sector Commentary

The market outlook for nickel remains positive and the investment fundamentals continue to strengthen.

The Shanghai Futures Exchange is now reportedly accepting class 1 nickel produced from laterite nickel matte and sulphate products.

As at late June 2023, nickel LME stocks were around 39,000 tonnes, down from 55,380 at the start of the year.

Demand for cobalt is forecast to rise by more than 200,000t to 2030 with the market size doubling relative to 2022 to 400,000t according to the Cobalt Institute's Cobalt Market Report.

Governments and private investment into Critical Minerals projects via the green energy movement continue to accelerate with the EU Commission noting that the energy transition is set to triple by 2023 from $1 trillion last year. The US IRA is providing US$500 billion into new spending and tax concessions. This forecast spend will see a greatly increased demand for Critical Minerals.

Mineral demand for use in Electric Vehicle (**EV**) and battery storage is expected to grow at least thirty times to 2040. Battery demand was 353kt Ni in 2022 which was 12% of total nickel demand, but forecast to command 41% of primary demand by 2033 (source: Fastmarkets May 2023). Lithium sees the fastest growth, with demand growing by over 40 times in the Sustainable Development Scenario by 2040, followed by graphite, cobalt and nickel at around 20-25 times (Figure 1a). Of note is the scarcity of nickel-cobalt resources compared to other Battery Minerals, such as lithium and graphite.

Current producers of nickel will not meet demand forecasts and higher nickel prices will be required to enable new investments to come online. These fundamentals underpin the global significance of the KNP and its international recognition, given the strategic scale of the resource, industry leading low-carbon flowsheet and location in the premium mineral resources operating jurisdiction in the World (Figure 1b).

With Ardea's KNP hosting one of the largest nickel-cobalt resources in the developed World, 854Mt at 0.71% Ni and 0.045% Co for **6.1Mt of contained nickel and 386kt of contained cobalt** (ASX release 30 June 2023), Ardea is in a prime position to provide essential supplies of sustainably-sourced nickel and cobalt, along with other Critical Minerals (notably scandium).

For personal use only

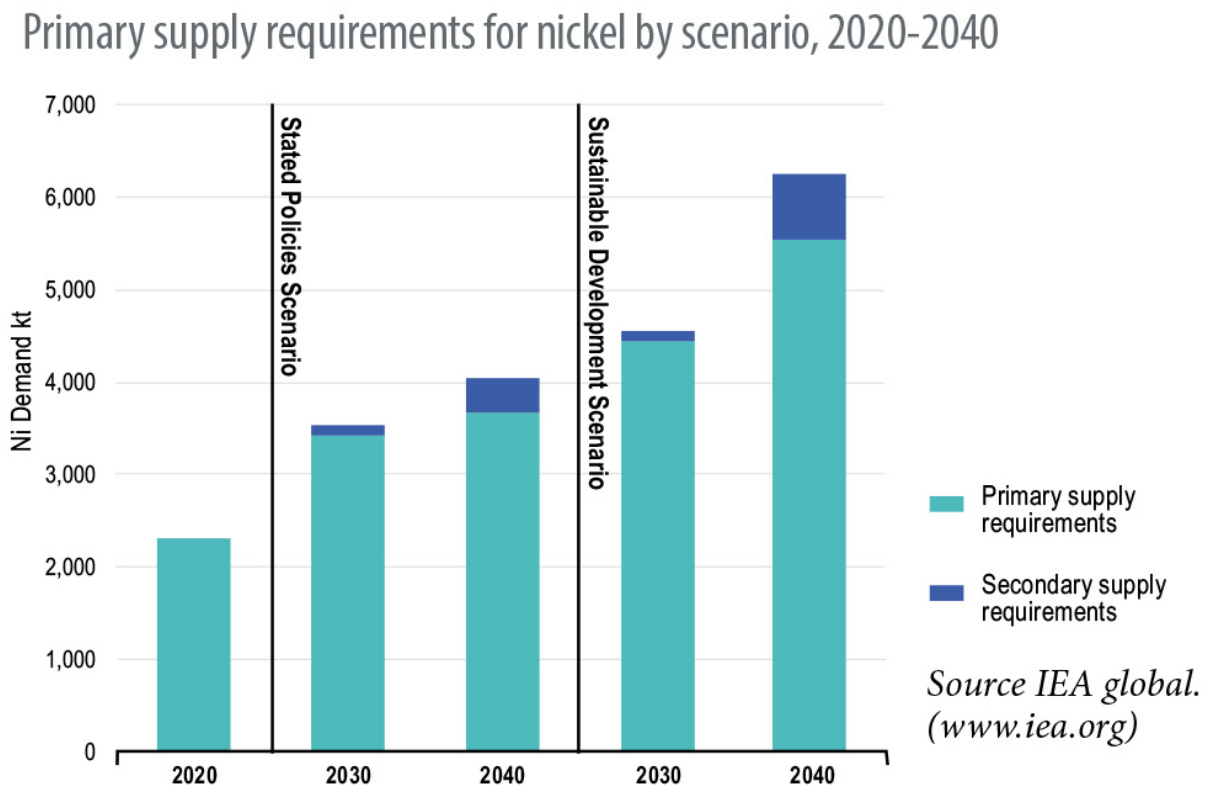


Figure 1a: International Energy Agency (IEA), Total nickel demand by scenario, 2020-2040, IEA, Paris

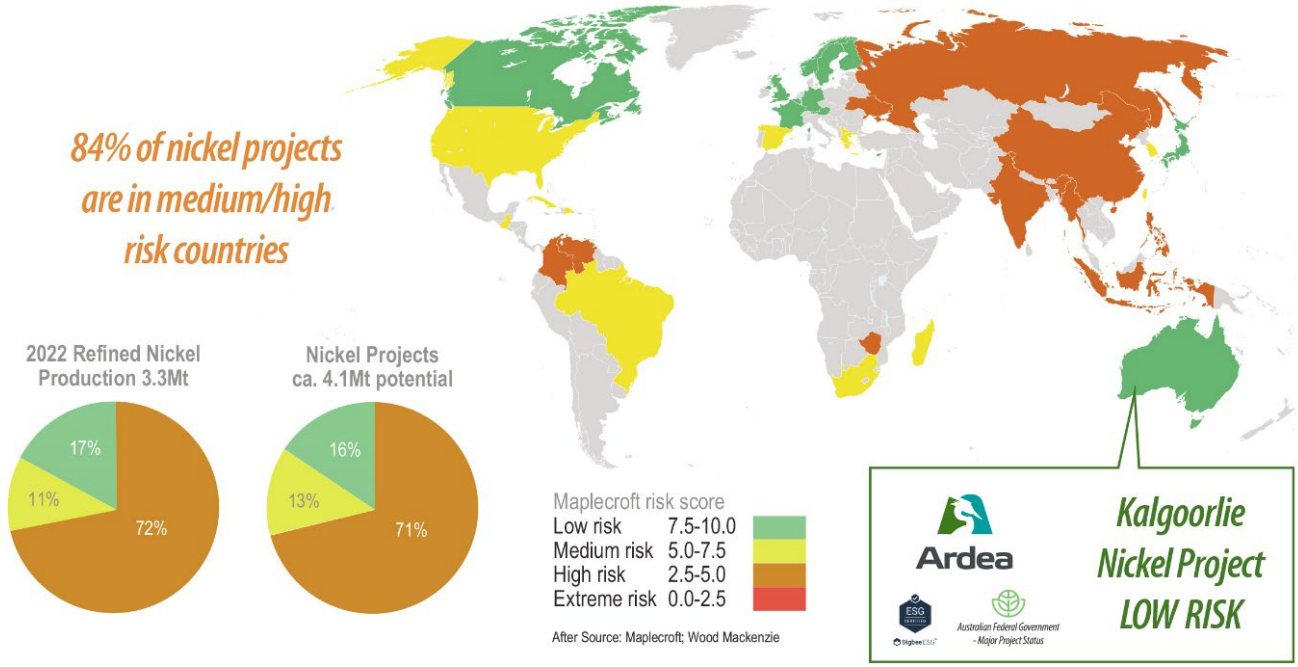


Figure 1b: Overlaying the critical demand for nickel is the ethical and risk considerations. The map above shows that 84% of nickel projects are considered medium/high risk countries. Ardea's KNP project is in the enviable, premier, and low risk mining jurisdiction of Western Australia. After source WoodMac "LME Metals Forum, October 2022 - Nickel"

Health and Safety

There were nil incidents or LTIs recorded during the Quarter. Safety topics for the Quarter included a focus on manual handling, new legislation considerations, verifications of competency, fatigue management and safe driving techniques.

On 30 May 2023 Ardea representatives attended a seminar held by the Association of Mining and Exploration Companies (**AMEC**) on the changes that occurred during the Work Health and Safety (Mines) Regulations WA 2022 in line with the transitional arrangements now ending and requiring to be in place in the workplace. These changes included the provision of a Mine Safety Management Plan (**MSMP**) that forms the main requirements for the Mines Safety Management System (**MSMS**) which Ardea implemented in the previous Quarter. Ardea is also working towards the process of upskilling personnel into required statutory positions (AQF level 5). This will also include an examination held by the Department of Mines Industry Regulation and Safety (**DMIRS**).

Environmental, Social and (Corporate) Governance

Environmental, Social and (Corporate) Governance (**ESG**) considerations are at the forefront of the Ardea operation. Project designs and work practices are based on the Company minimising the project development footprint and CO_2 green-house gas emissions when in production. The proposed flowsheet (Figure 5) has been enhanced for CO_2 mitigation in the neutralisation circuit through introducing an AL circuit to assist in neutralising the HPAL discharge. The AL circuit facilitates upgrade of the site acid plant utilisation and allows Ardea to generate its own site power requirements off-grid, without relying on fossil fuel for power generation.

Responsible sourcing of materials, through mechanisms such as mandatory reporting of CO_2 footprints for all batteries sold is essential. Traceability is also being implemented with raw materials used in batteries that must be procured according to OECD guidelines for sustainable sourcing.

Ardea enjoys strong support from the communities in which we operate, primarily the City of Kalgoorlie-Boulder and the Shire of Menzies and has a Native Title Agreement in place for development of the Goongarrie Hub. The benign environmental setting, being the Great Western Woodlands, allows excellent post-mining rehabilitation and reafforestation. Ardea's in-pit tailings disposal strategy, incorporating waste rock back fill, stockpiled topsoil and finally progressive revegetation, minimises land disturbance and accelerates rehabilitation, concurrent with operations.

For personal use only

Critically, at the Goongarrie Hub, mining and processing has no land-use conflict with agricultural activity which occurs in multiple peer nickel laterite centres.

During the Quarter, Ardea continued to engage with stake holders who are supportive of the Goongarrie Hub development and are looking forward to the contributions the operation can make to the local community through increased skilled job opportunities, training and enhancing community contributions.

In having a West Kalgoorlie Operations Office, Ardea maintains a permanent presence and regular engagement with the communities within which the Company operates.

ESG Compliance

Internationally accredited Digbee ESG TM have awarded Ardea an overall ESG rating of "BBB" for both corporate and the Kalgoorlie Nickel Project. For an emergent development company such as Ardea, BBB is a meritorious outcome and an excellent platform to achieve AAA as the Company grows.

Following feedback from Digbee, Ardea is currently working on aspects of its ESG rating that require improvement and will provide Digbee with Ardea's annual reporting update due for the September Quarter 2023. Ardea envisions a positive improvement to the score attained in 2022.

During the Quarter, Life Cycle Assessment (**LCA**) consultancy and technology company, Minviro, completed a cradle-to-gate LCA of the Goongarrie Hub. Using the KNP – Goongarrie Hub's mass and energy data produced for the 2023 PFS, the expected environmental impacts of Ardea's nickel and cobalt-containing MHP product have been quantified. The LCA has also undergone third party review and is published in accordance with ISO 14040/2006 and 14044/2006 standards.

Minviro reported that the KNP Goongarrie Hub climate change impact is expected to be 11.9kg CO_2 eq. per kg nickel in MHP based on Ardea's Scope 1, 2 and upstream Scope 3 emissions (Figure 2). Ardea's maiden LCA is deemed relatively low for an HPAL operation primarily due to the use of Mineralised Neutraliser (**MN**) rather than importing and using nickel-barren calcrete to neutralise acid waste streams. This is also due to the generation of on-site electricity from steam generated as a by-product of burning sulphur within the sulphuric acid plant.

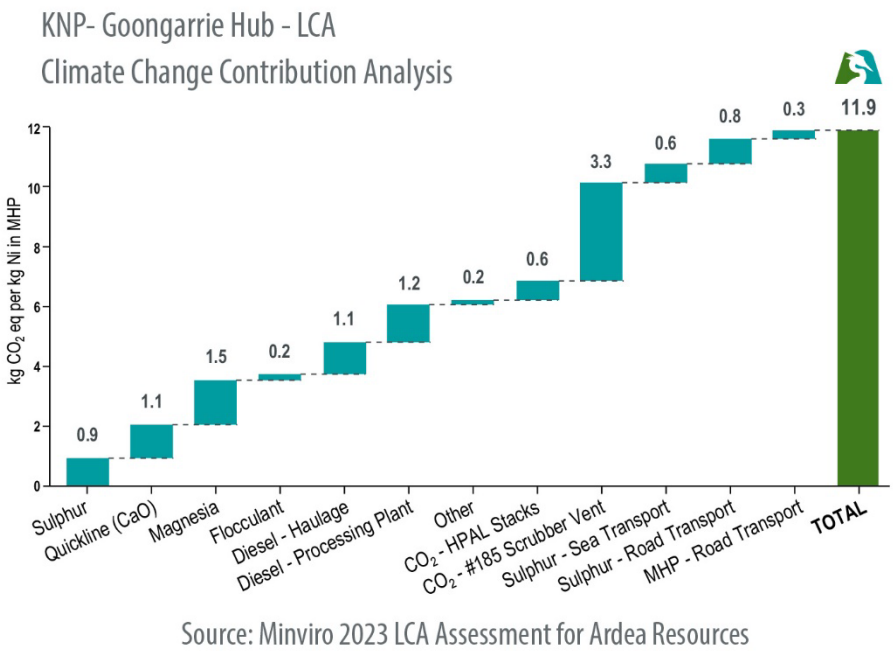


Figure 2: Minviro 2023 climate change contribution analysis of Ardea's Goongarrie Hub

For personal use only

For personal use only

1. KALGOORLIE NICKEL PROJECT - GOONGARRIE HUB

The Goongarrie Hub is located 70km northwest of the mining centre the City of Kalgoorlie-Boulder and is the premium ore feed within the broader KNP (Figure 3). Resources from the Goongarrie, Highway and Siberia North laterite nickel-cobalt deposits are planned to be the base load feed for a process operation located, at Goongarrie South.

The resources at Goongarrie are dominantly the premium goethite style and extend continuously over 25km of strike and at Highway, 30km north, over a strike length of 6km (Figure 3). All Goongarrie Hub mineral resources are located on granted mining leases with Native Title Agreements in place and tenure 100%-controlled by Ardea.

The project also has ready access to high-quality infrastructure with the Goldfields Highway, rail line and power infrastructure passing through the project area (Figure 3). The gas pipeline is located some 30km to the east and there are two port options, these being Esperance and Kwinana, that are well serviced by the KNP road and rail network.

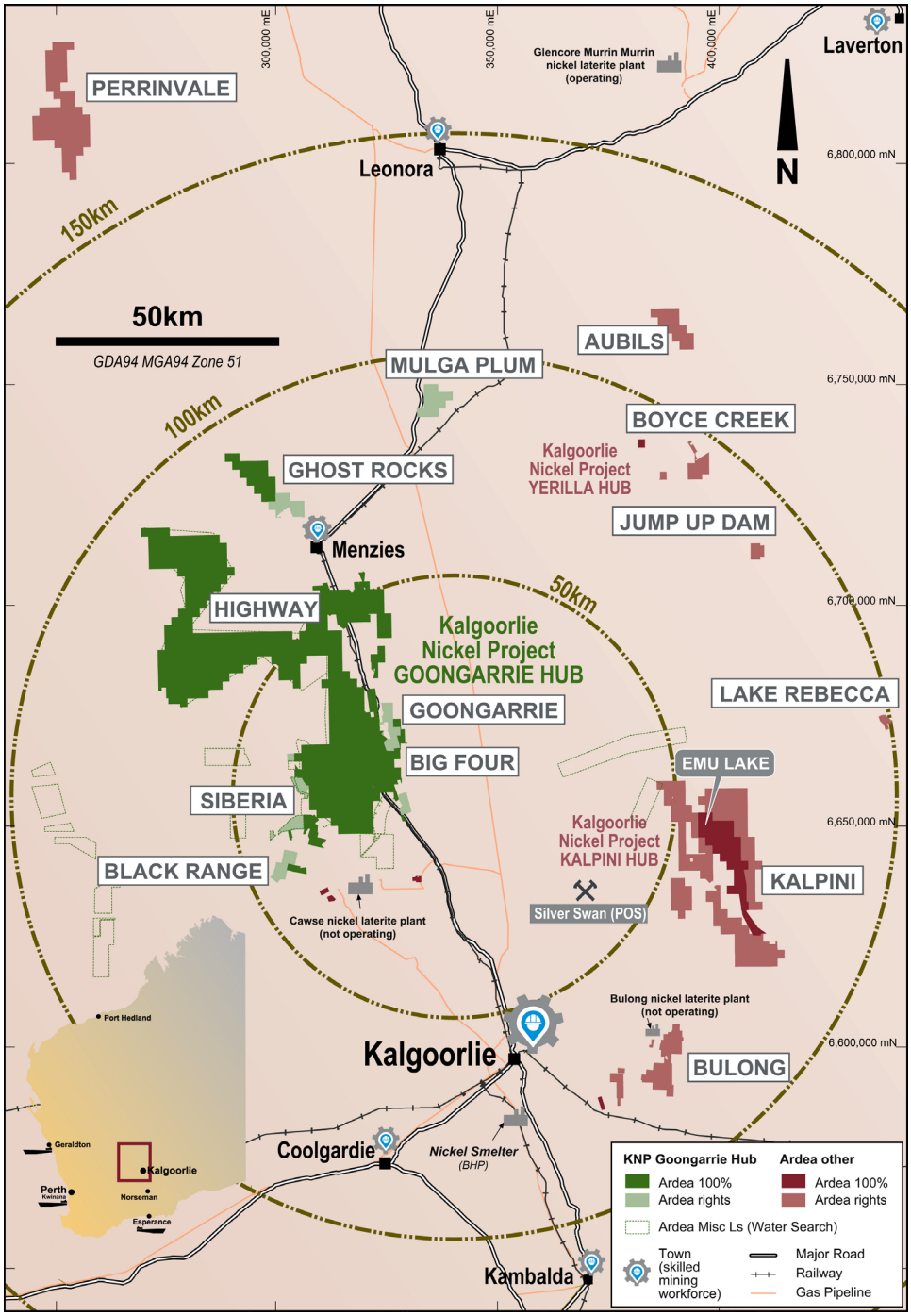


Figure 3: KNP location plan. Projection GDA94 Zone 51.

Significantly, the KNP is located on the rail connection to the developing battery hub at the Port of Kwinana industrial area immediately south of Perth, as well as east to Port Augusta and developing low-carbon energy hubs on the eastern Australia seaboard.

Ardea is actively engaged with Commonwealth and State agencies and statutory authorities who are coordinating the push for a downstream battery industry within Australia through "*Team Australia*" and the State of Western Australia through "*Team WA*".

All the LIB feedstocks, including nickel and cobalt, are available in Australia and WA in particular at the scales required for World-significant green energy centres of excellence.

Project Funding

The KNP Goongarrie Hub technical and economic fundamentals provide a strong platform for Ardea to source traditional financing through debt and equity markets, in addition to pursuing other financing strategies should this be to the benefit of Shareholders. Whilst no formal funding discussions have commenced, the Company has engaged with multiple financial institutions, including Export Credit Agencies from Australia and abroad, and these financial institutions have expressed a high level of future interest in being involved in funding the KNP Goongarrie Hub. Typical project development financing would involve a combination of debt and equity. Initial indications from financiers are that the debt component of the funding requirement would be significantly greater than the equity funding requirement.

The Company is running a Strategic Partner process to select a preferred partner or consortium of partners to provide input into the DFS scope of work, fund this undertaking and also to work with Ardea on securing project development funding. Now that Ardea have concluded the KNP Goongarrie Hub PFS, interest in this process is at an all-time high, as multiple companies express strong interest in securing nickel-cobalt off-take. Project off-take rights will only be awarded to selected Strategic Partner(s) that commit to making a substantial equity investment in the KNP Goongarrie Hub Project.

Figure 4: Aerial image of Ardea's Goongarrie Hub at Goongarrie South looking south towards Kalgoorlie-Boulder showing road and rail infrastructure within the granted mining leases upon which the resources are located. Note the semi-arid woodlands environment, ideal for project development, safe tailings management and revegetation post mining.

For personal use only

Feasibility Programs

Ardea's focus remains development of the KNP Goongarrie Hub. Considerable progress has been made with key June 2023 Quarter activities including completion of the PFS.

The KNP flowsheet follows a proven hydrometallurgical route for treating nickel and/or cobalt ore. It produces mixed nickel-cobalt hydroxide precipitate (**MHP**) filter cake, from goethite and minor saprolite ores. The process flow diagram is represented below.

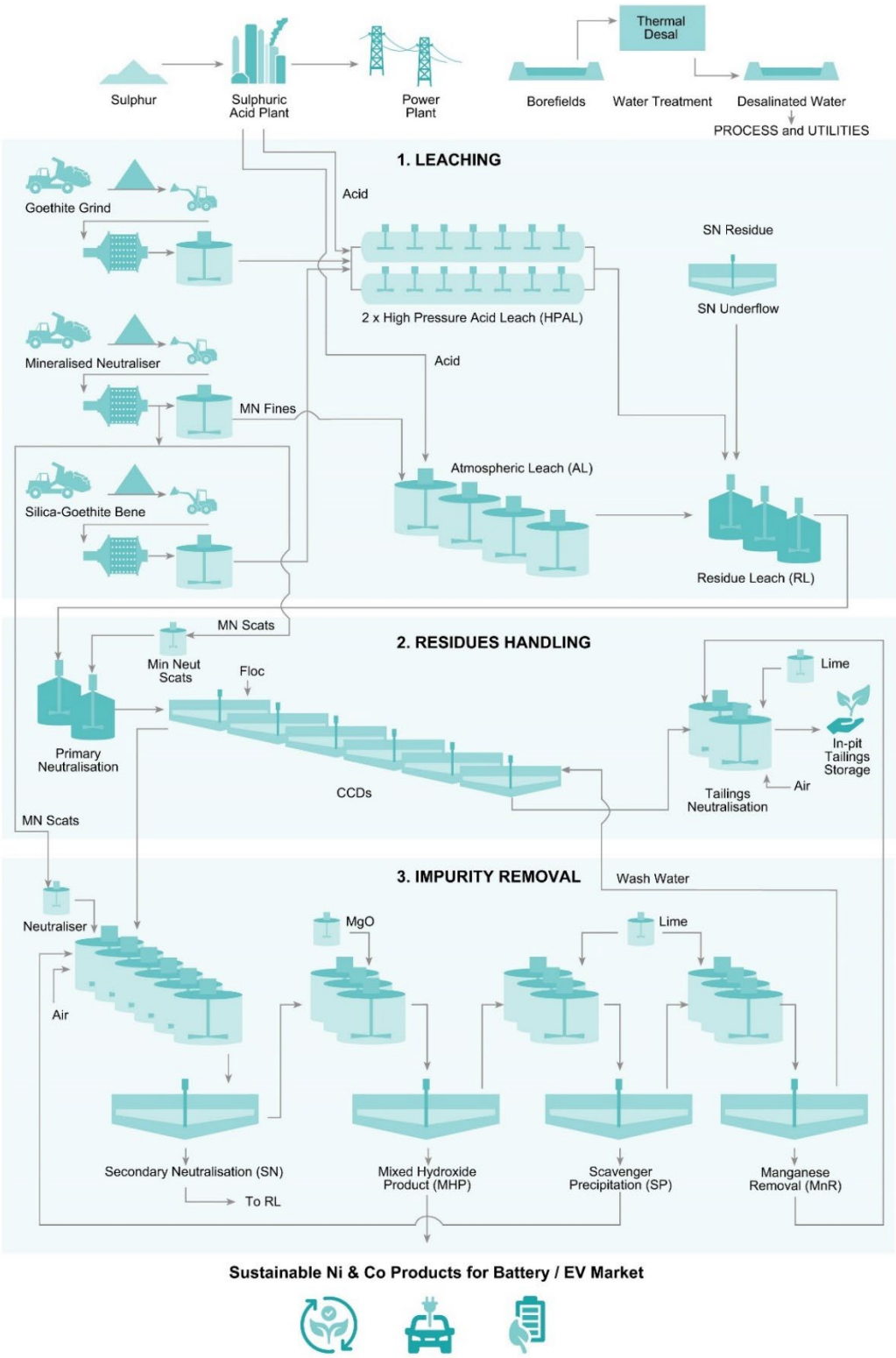


Figure 5: Goongarrie Hub process flowsheet.

For personal use only

On 5 July 2023 ASX Release 'KNP Goongarrie Hub Ore Reserve and Feasibility Study Defines +40 Year Operation with Strong Financial Metrics' provided multiple PFS Highlights, including:

- Ore Reserve – 194.1Mt at 0.70% Ni and 0.05% Co for 1.36Mt of contained nickel and 99,000t of contained cobalt[2]
- Mining optimisation studies have projected production of approximately 30,000t of nickel and 2,000t of cobalt per year for more than 40 years. Year 1 to 5 (post ramp up) production >34ktpa nickel and >3ktpa cobalt[2]
- Conventional low-cost open pit mining methods result in mining costs comprising less than 12% of total operating cost with a very low strip ratio at an average of 1.5 for the first 35 years of mine life[2]
- The project generates[3]:
    - Pre-tax NPV_7 of A$7,625M and IRR of 30%
    - Post-tax NPV_7 of A$4,980M and IRR of 23%
    - Average Annual EBITA of A$800M
    - Project pay back within 3.1 years
- Direct cash cost after Co by-products of US$3,763/t Ni in MHP during the first five years of operation, and US$5,763/t Ni in MHP over life of mine[3]
- Total capital cost of A$3,117m, including process plant and infrastructure cost of A$2,264M and sulphuric acid, steam, and power plant cost of $574M[3]
- LCA is expected to be 11.9 kg CO_2 eq. per kg nickel in MHP based on Ardea's Scope 1, 2 and upstream Scope 3 emissions[4]
- In-pit tailings disposal minimises environmental footprint and enables mine site rehabilitation, concurrent with steady-state mine operation

Resource Modelling

The Total Mineral Resource inventory for the KNP has been updated to reflect the most recent resource estimates available for all of Ardea's nickel laterite deposits and was released to the ASX during the Quarter ('Kalgoorlie Nickel Project Mineral Resource Estimate Exceeds 6 Million Tonne Contained Nickel', 30 June 2023). The main purpose of this update was to classify the MN as part of the Mineral Resource Estimate (**MRE**), to allow this material to be included in the Ore Reserve.

As part of the PFS, the Goongarrie Hub MRE was re-evaluated to consider the MN that is captured within optimised open pits, with a grade of less than the 0.5% nickel MRE reporting grade. Once this material has been screened, the coarse magnesium-rich magnesite saprock has been demonstrated to be a viable source of neutraliser and the fine goethite and magnesian clay-rich fraction a viable source of AL feed (Ardea ASX releases 16 November 2022 and 15 June 2023).

This extra neutralising material contributes additional project value through its magnesite component being used in the leaching circuit for acid neutralisation, to which it adds nickel-cobalt units at nil extra cost. Additionally, the MN Fines component contribute to the nickel-cobalt production as the dominant feed for the AL circuit.

The current PFS optimisation is based on two 1.5Mtpa HPAL autoclaves, along with 0.5Mtpa AL plant feed. The majority of the AL feed will be generated from MN Fines, so pit designs are now essentially agnostic to AL Material Type requirements.

The PFS assumes a feed allocation ranking approximately as follows: 69% Grind/HPAL; 17% Beneficiation/HPAL; 8% MN Fines (to Grind/AL circuit); 4% Grind/AL and 2% Beneficiation/AL (which being volumetrically minor can be blended with Beneficiation/HPAL circuit).

The MN is the largest source of nickel units to the AL Pregnant Liquor Solution (**PLS**).

[1] ASX Release 21 March 2022.
[2] See Section 5 of the 5 July PFS announcement for detailed Ore Reserve table and Appendix 1.
[3] See Section 14 of the 5 July PFS announcement for detailed notes on the financial metrics which include inputs of US$25,000/t nickel price, US$60,000/t cobalt price and exchange rate of 0.67 AUD:USD. Direct cash cost excludes royalties and includes third party freight charges and cobalt credit. [4] See Section 13 of the PFS announcement for detailed notes on the LCA.

For personal use only

For personal use only

The PFS identified that the quantity of MN required for neutralisation could not be supplied using the 0.5% Ni cut-off used for estimating the Goongarrie Hub MRE. Therefore, it was necessary to consider lower grade material to meet supply requirements.

Key specifications for the MN were:

- Loss on ignition (LOI) >25% and Ni >0.3%, or
- LOI >25% and Ni >0.2% and Si <= 23%

As this specification was based on the characteristics of the material that demonstrated acid neutralising capacity and not nickel economics, each deposit contained surplus requirements. The preferred source of MN was defined as a subset of this Material Type using pit optimisation and scheduling analysis undertaken as part of the PFS.

Compared to traditional nickel laterite operations that transport limestone from the Nullarbor Plains or from Esperance lime sands, the MN cost per tonne benefits have a significant influence on pit optimisations, such that pits are driven deeper in order to access the saprock MN.

A detailed summary of the MN captured in optimised open pits, with a grade of less than the 0.5% Ni, is provided in the section below in Table 1. These estimates represent only the MN within lower grade material and are not included in the Mineral Resources inventory reported at greater than 0.5% Ni cut-off grade, which is shown in Table 2 and Table 3.

Only the deposits in the Goongarrie Hub considered in the PFS, referred to as the PFS subset are included in the MN tables below. Other Goongarrie Hub deposits (Ghost Rocks, Siberia South and Black Range), the Kalpini Hub deposits, the Yerilla Hub deposits and Bulong deposits have not been included.

Results are based on previously reported resource models at Goongarrie Hub (Ardea ASX releases 15 February and 16 June 2021, and Heron ASX release 18 October 2013).

Table 1 - KNP Goongarrie Hub PFS subset nickel, cobalt and scandium Mineralised Neutraliser Material MRE below 0.5% Ni cutoff grade. Minor discrepancies may occur due to rounding of appropriate significant figures.

		Ni Co Resources					Sc Resources	
Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal Ni (kt)	Contained Metal Co (kt)	Tonnes (Mt)	Sc (ppm)
Goongarrie South	Measured	0.1	0.42	0.033	0.2	0.0	0.1	49.5
	Indicated	2.2	0.38	0.029	8.4	0.7	2.2	8.2
	Inferred	0.6	0.35	0.039	2.2	0.2	0.6	22.9
	Subtotal	*2.9*	*0.37*	*0.031*	*10.9*	*0.9*	*2.9*	*11.2*
Goongarrie Hill	Indicated	0.1	0.42	0.021	0.6	0.0	0.0	14.8
	Inferred	1.1	0.39	0.018	4.2	0.2	0.0	10.9
	Subtotal	*1.2*	*0.40*	*0.018*	*4.7*	*0.2*	*0.0*	*11.7*
Big Four	Indicated	0.8	0.37	0.035	2.8	0.3	0.6	24.2
	Inferred	0.9	0.36	0.027	3.2	0.2	0.6	16.3
	Subtotal	*1.7*	*0.36*	*0.031*	*6.1*	*0.5*	*1.2*	*20.2*
Scotia Dam	Indicated	0.3	0.34	0.032	0.8	0.1	0.3	8.0
	Inferred	0.0	0.37	0.024	0.1	0.0	0.0	9.8
	Subtotal	*0.3*	*0.34*	*0.031*	*0.9*	*0.1*	*0.3*	*8.2*
Highway	Indicated	31.8	0.38	0.014	119.5	4.6	0.1	26.4
	Inferred	0.5	0.39	0.019	2.0	0.1	0.0	29.5
	Subtotal	*32.3*	*0.38*	*0.014*	*121.4*	*4.7*	*0.1*	*27.2*
Siberia North	Indicated	0.0	-	-	-	-	-	-
	Inferred	0.0	-	-	-	-	-	-
	Subtotal	*0.0*	-	-	-	-	-	-
Combined PFS Deposits	**Measured**	0.1	0.42	0.033	0.2	0.0	0.1	49.5
	Indicated	35.2	0.38	0.016	132.1	5.6	3.1	11.6
	Inferred	3.1	0.37	0.025	11.7	0.8	1.3	19.4
	Grand Total	***38.4***	***0.37***	***0.017***	***144.0***	***6.4***	***4.5***	***14.3***

The MRE for the Goongarrie Hub PFS subset deposits covered in the table above, reported above a 0.5% Ni cut-off grade, are provided in Table 2.

Table 2 - KNP Goongarrie Hub PFS subset nickel, cobalt and scandium MRE using a greater than 0.5% Ni cut-off grade. Minor discrepancies may occur due to rounding of appropriate significant figures.

Deposit	Resource Category	Ni Co Resources Tonnes (Mt)	Ni %	Co %	Contained Metal Ni (kt)	Co (kt)	Sc Resources Tonnes (Mt)	Sc (ppm)
Goongarrie South	Measured	18	0.94	0.085	172	15	18	40
	Indicated	82	0.71	0.049	587	40	53	23
	Inferred	10	0.64	0.033	61	3	6	24
	Subtotal	*110*	*0.75*	*0.053*	*820*	*59*	*77*	*27*
Goongarrie Hill	Indicated	40	0.65	0.037	260	15	11	16
	Inferred	29	0.60	0.025	178	7	2	16
	Subtotal	*69*	*0.63*	*0.032*	*438*	*22*	*13*	*16*
Big Four	Indicated	49	0.71	0.047	345	23	32	24
	Inferred	14	0.68	0.043	95	6	3	24
	Subtotal	*63*	*0.70*	*0.046*	*440*	*29*	*35*	*24*
Scotia Dam	Indicated	11	0.71	0.065	82	7	11	25
	Inferred	5	0.72	0.043	37	2	1	22
	Subtotal	*17*	*0.72*	*0.058*	*118*	*10*	*12*	*25*
Highway	Indicated	71	0.70	0.038	491	27	19	27
	Inferred	21	0.67	0.040	142	8	3	26
	Subtotal	*92*	*0.69*	*0.038*	*633*	*35*	*22*	*26*
Siberia North	Indicated	14	0.72	0.042	102	6	-	-
	Inferred	72	0.74	0.034	532	24	-	-
	Subtotal	*86*	*0.73*	*0.035*	*634*	*30*	-	-
Combined PFS Deposits	Measured	18	0.94	0.085	172	15	18	40
	Indicated	267	0.70	0.044	1,867	118	126	23
	Inferred	151	0.69	0.034	1,045	51	14	23
	Grand Total	***437***	***0.71***	***0.042***	***3,083***	***184***	***158***	***25***

The KNP global Mineral Resource Estimate (using a 0.5% Ni cut-off grade) now stands at **854Mt at 0.71% Ni and 0.045% Co for 6.1Mt of contained nickel and 386kt of contained cobalt** (Table 3). All the resources are constrained within optimised pit shells using appropriate nickel and cobalt prices, mining and processing costs and pit slope parameters to determine the material that could potentially be economically mined in the future. The Mineral Resource has been estimated and reported in accordance with the guidelines of the 2012 edition of the Australia Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves the JORC Code (2012).

All the Mineral Resource estimates completed prior to the introduction of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012) have been reviewed by Ardea Competent Persons and confirmed to comply with JORC Code (2012) guidelines.

In 2009 Snowden Mining Industry Consultants (**Snowden**) completed a resource model for Siberia North utilising Ordinary Kriging (**OK**), followed by Uniform Conditioning (**UC**). Previously reported MRE tables have included the OK estimates for Siberia North, while the other five deposits at the Goongarrie Hub that are the subject of the current PFS all utilise OK followed by Local Uniform Conditioning (**LUC**) for estimation and are reported as LUC estimates (Table 3). LUC for nickel laterite is considered to provide the most detailed and appropriate model for open pit mining, including dilution, for the Goongarrie Hub deposits. The UC model at SN was the closest to this in terms of methodology and block size, so was deemed the most appropriate and consistent fit. As such, the Total MRE has been updated to reflect the change to UC for Siberia North.

Ardea is currently completing an updated LUC MRE at Siberia North.

For personal use only

Table 3 - Updated KNP nickel and cobalt MRE based on a greater than 0.5% Ni cut-off grade. Minor discrepancies may occur due to rounding of appropriate significant figures. Legend: LUC – Local Uniform Conditioning; UC – Uniform Conditioning; OK – Ordinary Kriging.

Camp	Prospect	Resource Category	Size (Mt)	Ni (%)	Co (%)	Contained Metal Ni (kt)	Contained Metal Co (kt)	Estimation Details Method	Estimation Details Source	Estimation Details Year
Goongarrie	Goongarrie South	Measured	18	0.94	0.085	171	15	LUC	Ardea	2021
		Indicated	82	0.71	0.049	584	40	LUC	Ardea	2021
		Inferred	10	0.64	0.033	61	3	LUC	Ardea	2021
	Highway	Indicated	71	0.69	0.038	487	27	LUC	Ardea	2023
		Inferred	21	0.67	0.040	141	8	LUC	Ardea	2023
	Ghost Rocks	Inferred	47	0.66	0.042	312	20	OK	Snowden	2004
	Goongarrie Hill	Indicated	40	0.65	0.037	259	15	LUC	Ardea	2021
		Inferred	29	0.60	0.025	176	7	LUC	Ardea	2021
	Big Four	Indicated	49	0.71	0.047	346	23	LUC	Ardea	2021
		Inferred	14	0.68	0.043	96	6	LUC	Ardea	2021
	Scotia Dam	Indicated	12	0.71	0.065	82	7	LUC	Ardea	2021
		Inferred	5	0.72	0.043	37	2	LUC	Ardea	2021
	Goongarrie Subtotal	Measured	18	0.94	0.085	171	15			
		Indicated	253	0.69	0.044	1,758	112			
		Inferred	127	0.65	0.037	823	47			
		Combined	***398***	***0.69***	***0.044***	***2,753***	***175***			
Siberia	Siberia South	Inferred	81	0.65	0.033	525	27	OK	Snowden	2004
	Siberia North	Indicated	14	0.72	0.042	102	6	Ni(UC) Co(OK)	Snowden	2009
		Inferred	72	0.74	0.034	534	25	Ni(UC) Co(OK)	Snowden	2009
	Black Range	Indicated	9	0.67	0.090	62	8	OK	HGMC	2017
		Inferred	10	0.69	0.100	68	10	OK	HGMC	2017
	Siberia Subtotal	Indicated	24	0.70	0.061	165	14			
		Inferred	163	0.69	0.038	1,127	61			
		Combined	***186***	***0.69***	***0.040***	***1,292***	***75***			
KNP Goongarrie Hub	**TOTAL**	Measured	18	0.94	0.085	171	15			
		Indicated	277	0.70	0.046	1,923	127			
		Inferred	289	0.67	0.037	1,951	108			
		Combined	***584***	***0.69***	***0.043***	***4,044***	***250***			
Bulong	Taurus	Inferred	14	0.84	0.051	119	7	OK	Snowden	2007
	Bulong East	Indicated	16	1.06	0.055	169	9	OK	Snowden	2004
		Inferred	24	0.79	0.053	190	13	OK	Snowden	2004
	Bulong Subtotal	Indicated	16	1.06	0.055	169	9			
		Inferred	38	0.81	0.052	309	20			
		Combined	***54***	***0.88***	***0.053***	***477***	***29***			
Hampton	Kalpini	Inferred	75	0.73	0.044	550	33	OK	Snowden	2004
	Hampton Subtotal	Inferred	75	0.73	0.044	550	33			
KNP Kalpini Hub	**TOTAL**	Indicated	16	1.06	0.055	169	9			
		Inferred	114	0.76	0.047	859	53			
		Combined	***130***	***0.79***	***0.048***	***1,028***	***62***			
Yerilla	Jump Up Dam	Measured	4	0.94	0.048	36	2	OK	Snowden	2008
		Indicated	42	0.78	0.043	324	18	OK	Snowden	2008
		Inferred	18	0.63	0.034	116	6	OK	Snowden	2008
	Boyce Creek	Indicated	27	0.77	0.058	206	16	OK	Snowden	2009
	Aubils	Inferred	49	0.70	0.066	346	33	OK	Heron	2008
KNP Yerilla Hub	**TOTAL**	Measured	4	0.94	0.048	36	2			
		Indicated	68	0.78	0.049	531	33			
		Inferred	68	0.68	0.057	462	39			
		Combined	***140***	***0.73***	***0.053***	***1,028***	***74***			
KNP TOTAL		Measured	22	0.94	0.079	207	17			
		Indicated	361	0.73	0.047	2,622	169			
		Inferred	471	0.70	0.043	3,272	200			
	GRAND TOTAL	***Combined***	***854***	***0.71***	***0.045***	***6,101***	***386***			

For personal use only

Ore Reserve

The PFS defined an Ore Reserve estimate of 194.1Mt at 0.70% Ni and 0.05% Co for **1.36Mt contained nickel and 99kt contained cobalt** (Table 4). Other Goongarrie Hub deposits (Ghost Rocks, Siberia South and Black Range) have not been included in the current Ore Reserve and provide potential to extend the mine life.

Table 4 - KNP Goongarrie Hub Ore Reserve Summary consisting of ore above 0.5% Ni as the feed stock for the processing facility, and ore as Mineralised Neutraliser above 0.5% Ni equivalent (Nieq) and Loss on Ignition (LOI) above 25%

	Ore >= 0.5% Ni					Ore > 0.5% NiEq and LOI > 25%					Total Ore				
Deposit	Mt	Ni %	Co %	Ni kt	Co kt	Mt	Ni %	Co %	Ni kt	Co kt	Mt	Ni %	Co %	Ni kt	Co kt
Proven															
Goongarrie South	16.7	0.96	0.09	160	15	0.05	0.43	0.03	0.20	0.01	16.7	0.96	0.09	160	15
Sub-total	**16.7**	**0.96**	**0.09**	**160**	**15**	**0.05**	**0.43**	**0.03**	**0.20**	**0.01**	**16.7**	**0.96**	**0.09**	**160**	**15**
Probable															
Big Four/Scotia Dam	34.9	0.76	0.07	265	23	0.8	0.38	0.04	3	0	35.7	0.75	0.06	268	23
Goongarrie South	33.6	0.79	0.07	265	23	1.8	0.40	0.03	7	1	35.4	0.77	0.07	272	24
Goongarrie Hill	15.8	0.70	0.04	110	7	0.1	0.44	0.02	0	0	15.9	0.70	0.04	111	7
Highway	54.0	0.70	0.04	380	22	27.2	0.39	0.01	106	4	81.2	0.60	0.03	486	26
Siberia North	9.2	0.74	0.05	68	4	-	-	-	-	-	9.2	0.74	0.05	68	4
Sub-total	**147.4**	**0.74**	**0.05**	**1,087**	**79**	**29.9**	**0.39**	**0.02**	**117**	**5**	**177.4**	**0.68**	**0.05**	**1,204**	**84**
PROVEN AND PROBABLE TOTAL															
Big Four/Scotia Dam	34.9	0.76	0.07	265	23	0.8	0.38	0.04	3	0	35.7	0.75	0.06	268	23
Goongarrie South	50.2	0.85	0.08	425	38	1.9	0.40	0.03	7	1	52.1	0.83	0.07	432	39
Goongarrie Hill	15.8	0.70	0.04	110	7	0.1	0.44	0.02	0	0	15.9	0.70	0.04	111	7
Highway	54.0	0.70	0.04	380	22	27.2	0.39	0.01	106	4	81.2	0.60	0.03	486	26
Siberia North	9.2	0.74	0.05	68	4	-	-	-	-	-	9.2	0.74	0.05	68	4
TOTAL	**164.1**	**0.76**	**0.06**	**1,247**	**94**	**30.0**	**0.39**	**0.02**	**117**	**5**	**194.1**	**0.70**	**0.05**	**1,365**	**99**

Notes:

1. *The Ore Reserve is reported in accordance with JORC Code 2012.*
2. *Ore reserves are reported at a cut-off of 0.5% Ni for primary feed stock to the processing facility, plus mineralised neutraliser as ore at a cut-off of 0.5% NiEq and LOI above 25%.*
3. *NiEq defined using Ni + 2.32 x Co.*
4. *The Ore Reserve was evaluated using a base price of US$22,000/t for Ni and US$51,000/t for Co at 85% payable for a Mixed Hydroxide Precipitate (MHP) product, and an exchange rate 0.69 USD/AUD. In view of forward metal price projections averaging US$25,000/t Ni, the Ore Reserve can be considered conservative.*
5. *Ore Reserves account for mining dilution and mining ore loss.*
6. *Ore Reserves are reported on a Dry Tonnage Basis.*
7. *Proven Ore Reserves are based on Measured Mineral Resources only and Probable Ore Reserves are based on Indicated Mineral Resources only.*
8. *The sum of individual amounts may not equal due to rounding.*
9. *This Ore Reserve estimate is for a subset of the KNP Goongarrie Hub deposits being Goongarrie South, Big Four / Scotia Dam, Goongarrie Hill, Highway and Siberia North.*

Mining optimisation studies completed, as part of the PFS have defined production of approximately 30,000t of nickel and 2,000t of cobalt per annum for more than 40 years. This projection comprises the Ore Reserve and the inclusion of a small amount of Inferred Mineral Resource (20Mt or 9% of total MRE) spread over the Life of Mine.

For personal use only

For personal use only

Enhancing previous studies, the updated mine plan uses a selective mining approach to maximise economic extraction of the KNP Goongarrie Hub mineral resource by defining ore types to leverage the variability of the mineralisation. This was achieved by maximising higher value ore streams through the HPAL circuit and diverting to the AL circuit lower value streams that would otherwise be stockpiled for end of project processing.

Processing Research and Development

The Ardea FY2023 Research & Development (**R&D**) is based upon metallurgical experiments aimed at optimising the plant performance, product range and hence revenue streams from the KNP and its Goongarrie Hub.

Mineralised Neutraliser

The key R&D processing break through achieved during the current Quarter was filing an International PCT Patent Application entitled "Acid Neutraliser Composition" on 13 June 2023 at the World Intellectual Property Office (**WIPO**). The international application, PCT/AU2023/050520, covers Ardea's MN R&D which extends from their earlier Australian Provisional Patent Application filed at IP Australia on 11 November 2022 (see ASX announcements of 16 November 2022 and 15 June 2023). The filing of this International PCT Patent Application at WIPO gives Ardea the option to pursue patent protection for its MN in over 150 countries, including Australia, and represents a significant step towards gaining patent protection in countries around the World for this major flowsheet enhancement.

Impetus for the MN experiments was to test whether magnesite could replace the calcitic limestone invariably used for Eastern Goldfields nickel laterite sulphuric acid neutralisation and in so doing save on consumable purchase and transport cost and minimise CO_2 emissions associated with transporting the limestone to site.

Scandium and Rare Earth Elements

Key experiments relate to sustainability enhancements for the KNP HPAL and AL flowsheets. In terms of potential by-product revenue streams, opportunities involving the Critical Minerals cobalt, scandium, the Platinum Group Elements (**PGE**) - Ru, Rh, Os (due to excessive assay cost, using 500ppb Pt-Pd as a pathfinder in pulp re-assay) and the REE neodymium, praseodymium and cerium, used in magnets for EV motors and wind-turbine generators.

Highly sought Critical Minerals documented within the KNP lateritic enrichment regolith profile include:

- NCM content in LIB including precursor cathode-active material;
- EV electric motor REE permanent NdFeB magnet metals, most notably Nd-Pr-Tb-Dy. The KNP also has common Ce and La;
- Scandium for scandium-aluminium lightweight, high-strength fabrication in general and EV chassis in particular;
- Vanadium for community-scale and larger SSBs;
- Critical Minerals targets at potentially extractable grades identified during KNP R&D include:
    - Ba, Cr, Ga, In, Mg, Mo, Te, Ti, Sn, W, Y, Zr; and
    - PGEs - Ru, Rh, Os.

All these Critical Minerals can be realistically assessed for recovery because the HPAL process requires complete dissolution of goethite-hosted nickel-cobalt mineralisation, thereby rendering all contained metals into solution and thus amenable to recovery. This does not require each of these metals to individually be in stand-alone economic concentrations. Recovery of these metals relies on nickel and cobalt hydrometallurgical recovery, potentially providing significant credits and upside to the project economics.

Metallurgical test work with a consultant desk-top study into the viability of recovering co-product Critical Minerals from the HPAL PLS, focussed initially on scandium. Critical Minerals research and development is predicated on the 60 element Ardea multi-element assay suite used in all sampling programs. The R&D focus for the Company continues to be searching the KNP technical data base to select archived Ardea drilling sample pulps for re-assay for Critical Minerals (notably REE co-products and identifying fertile nickel sulphide multi-element ratios indicative of PGEs). The PGE R&D is a joint CSIRO-Ardea program.

A CSIRO-Ardea conceptual nickel sulphide target at Highway has secured WA State Government Exploration Incentive Scheme (EIS) support and core hole designed.

Future Battery Industries – Cooperative Research Centre (FBICRC)

The FBICRC is an independent centre where industry, government and researchers can come together to create the tools, technologies, and skills to grow the role of battery storage in Australia's electricity grids and make Australia a larger downstream player in global battery value chains.

The focus of all Ardea R&D is ultimately aligned with the FBICRC objective of developing Australian autonomous, ESG-compliant, renewable energy supply chains.

Ardea sponsors and works with the FBICRC team on multiple work streams.

Each one of these work streams is aimed at ensuring quality product specifications and ESG compliance for the Australian LIB sector and sustainable and ethical supply from the best-regarded operating jurisdiction in the World, being WA.

The consortium of FBICRC participants includes some of the largest nickel and chemicals producers in the World who are working with companies such as Ardea to produce from locally sourced materials the batteries used in EVs.

Ardea has assembled suitable bulk drill sample material from current Goongarrie Hub drilling plus product from the 2018 PFS Goongarrie pilot run as test material for the FBICRC pilot plant.

Bench-scale Metallurgy

Bench scale metallurgical test work is currently on hold, pending finalisation of the DFS programs.

With the PFS finalisation of the Goongarrie plant feed with its focus on Grind and Bene HPAL Goethite, the previous requirement for Atmospheric Leach studies is less pressing. The future test work focus will now be more on MN particularly at Highway. To this end, detailed hydrometallurgical studies were completed on historic Highway data sets and areas identified for drill pulp re-assay to quantify MN targets ahead of planned DFS stage drilling.

To further develop the main flowsheet, a scope of work for bench-scale test work was provided to local metallurgical laboratory IMO (Metallurgy Pty Ltd.). This scope was intended to provide supporting data for the DFS design phase, and concentrated on the hydrometallurgical process, including around the Atmospheric Leach (**AL**) and some novel opportunities for improving the solution purification chemistry efficiency (eg alternative ferrous iron oxidation process, MHP washing efficiency, scavenger precipitation residue oxidation).

The involvement of the Consortium as potential partners in project development has prompted a review of the flowsheet and test work requirements that are currently being refined, as part of finalising the DFS scope of work.

Metallurgical Bulk Samples

Bulk samples requirements for the Bench-Scale Metallurgy program are being evaluated.

Flowsheet Research and Development

Options to intensify the HPAL with AL processes are to be investigated.

Process performance of the atmospheric leaching and mineralised neutralisation circuits was reported in ALS report A23316.

Metal extractions from the MN scats under simulated process conditions were reported and the process recoveries were calculated. The weighted average extractions for nickel and cobalt in the MN scats were 86.5% and 75.3% respectively.

A review of the atmospheric leach nickel and cobalt extractions was conducted, and concluded that likely extraction efficiencies would be 72% for both nickel and cobalt. This value was used in the PFS production model.

For personal use only

For personal use only

A review of the recent AL chemistry showed that:

- Seed recycle using HPAL residue was not effective, as evidenced by the delays between seed addition and the initiation of jarosite precipitation. This could have been due to inactive seed (low jarosite mineralogical content) or to unfavourable solution chemistry (eg high acidity)
- The long induction period for jarosite precipitation would contribute to lower process intensity and lower economic returns
- Achieving good metal leach extraction at the same time as efficient jarosite precipitation required conflicting process conditions. At high acidities, nickel and cobalt extractions were acceptable, but the ferric iron concentration remaining in the PLS would present a challenge for the downstream neutralisation circuit. On the other hand, lower acidities could promote efficient jarosite precipitation, but metal extraction rates were below 50%

Further test work is recommended to identify ways of improving the process intensity:

1. Seed chemistry is to be confirmed before testing
2. Full scale reactor geometry is to promote self-seeding by extending the residence time in the tank where jarosite precipitation is to occur
3. Nickel and cobalt extractions are to be increased by using a higher initial acid dosage
4. Jarosite precipitation is to be promoted by contacting the PLS from the initial leaching stage with unreacted saprolite ore, which is to bypass the initial leach stage. This stream may be supplemented or replaced by nickel-bearing recycle residues from the secondary neutralisation area

The HPAL process intensity is also under investigation. A review of historic test work showed a scatter of leach extraction rates, reflecting variable residence times, temperature, acid rates and mineralogy. It was concluded that a 70 minute residence time allowance used in the PFS was overly-conservative, and that a 60-minute residence time could achieve design leach extractions, even if this called for higher acid dosage rate. A Syscad model run was conducted, assuming that residence time was reduced by 10 minutes (to 60 minutes) and that free acid in HPAL discharge was increased by 10 g/L. The model outputs predicted a 16.7% increase in autoclave production rate. The only other changes were an increase in MN consumption and an attendant increase in MN Fines being despatched to the atmospheric leach area.

Apart from this, alternatives for increasing HPAL productivity are to increase the ore grade, increase the slurry density or to reduce the autoclave residence time.

To increase the ore grade, preliminary discussions have been undertaken with reagent provider Clariant to investigate the potential for enriching the HPAL feed by reverse flotation of the liberated silica fraction. Samples are to be sent to Clariant for testing.

Increasing the HPAL slurry density is possible, given appropriate equipment selection and design. It has already been assumed that these initiatives will be in place by the time the plant design is completed. The remaining option for improving autoclave slurry density is to reduce the amount of live steam that is injected into the HPAL. DFS investigations will be conducted into the feasibility of generating sulphuric acid within the HPAL by adding elemental sulphur to the feed slurry and allowing this to react with oxygen that is also added to the HPAL. The reaction between sulphur and oxygen generates both acid and heat, and requires about 50 kg/t of acid to be replaced with sulphur and oxygen.

Reducing residence time in the autoclave can potentially be achieved by increasing the HPAL temperature. However, this also involves increasing the amount of steam injected into the HPAL, which both dilutes the HPAL slurry and increases the live steam top-up from the boiler. An alternative would be to retain the existing steam injection rates, but to supplement the heating effect by adding sulphur and oxygen to the autoclave to generate the heat required to reach a target temperature of 260°C. It is expected that the higher HPAL temperature could permit the residence time to be further reduced.

These options are being evaluated in the upcoming DFS metallurgical bench testing program.

For personal use only

Hydrogeology

At Goongarrie, all nickel-cobalt-scandium mineral resources are located on granted mining leases. As such, Ardea has first rights to any ground water underlying these areas. Past work by Ardea has defined multiple water sources, with water for project development to be sourced from dedicated bore fields.

Water exploration drilling resumed during the period testing multiple targets within the Goongarrie Hub including Black Range, Goongarrie South and Papertalk (Figure 3, includes water exploration tenure). A bore at Black Range and a bore at Goongarrie South both produced 3.5-4 L/s of moderate salinity water.

Passive seismic surveys were completed in April at several locations in and around the Goongarrie Hub including some survey lines to search for palaeovalley aquifers. Results were of high quality and delineated multiple paleochannel targets for potential future testing.

The hydrogeology section of the PFS incorporated all results from recent water exploration programs. Three groundwater streams are needed for the KNP: a Raw Water Stream (1.6 GL/a at <70,000 mg/L), which will be treated using thermal desalination primarily for use in the autoclaves; a Process Water Stream (3.1 GL/a at <100,000 mg/L) to be treated by nanofiltration and is primarily for ore preparation; and Camp Water Supply (0.3 GL/a at <40,000 mg/L) for mine construction and camp supply which will be treated using reverse osmosis. As part of the PFS a base case supply option has been defined to meet these water demands.

Ardea has two water abstraction licences granted over the central Goongarrie Hub and multiple search for water miscellaneous licences granted to provide sufficient optionality to source water requirements for future production. Ardea will continue the water supply reviews at the concept level stage to find the best water supply options and then undertake more detailed engineering and cost estimates post-PFS. Further exploration drilling and seismic surveys may continue in the DFS including on the multiple regional paleovalley targets.

Infrastructure and Logistics

In February 2023 logistics provider QUBE completed a high-level scoping study which provided an initial supply chain model of a mine to port solution for the export/import of MHP, magnesia, sulphur and lime.

This study identified three potential ports (Kwinana, Fremantle or Esperance ports) to import sulphur, bulk lime, magnesia and other reagents and two potential ports (Esperance and Fremantle) for the export of MHP using 20 foot general purpose containers. Haulage options reviewed road trains and rail options and combinations between the port and site.

During the June 2023 Quarter the above QUBE study results were utilised to finalise the PFS logistics and operating cost basis.

Ardea continued its engagement with key stakeholders during the Quarter in particular with the City of Kalgoorlie-Boulder (CKB). Ardea and CKB liaise regularly on key project development updates, instructor and accommodation developments. Further CKB continues to support Ardea with hosting Strategic Partner site visits.

Preliminary discussions were had with Coogee Chemicals to discuss the potential for working together on sulphuric acid production, either with a Build-Own-Operate arrangement at the KNP Goongarrie Hub or with marketing of excess sulphuric acid within the wider WA market. Discussions will continue.

Environment and Rehabilitation

All project development within the KNP is aimed at including systematic and rapid rehabilitation concurrent with operations. The KNP is located within the Great Western Woodlands, the largest and healthiest temperate to semi-arid (Mediterranean climate) woodland on Earth. The woodlands cover almost 16,000,000 hectares from the Nullarbor Plain in the east to the Wheatbelt in the west; from Esperance in the south through to the inland mulga country north of Kalgoorlie, including the KNP as a comparative very small component (Figure 3).

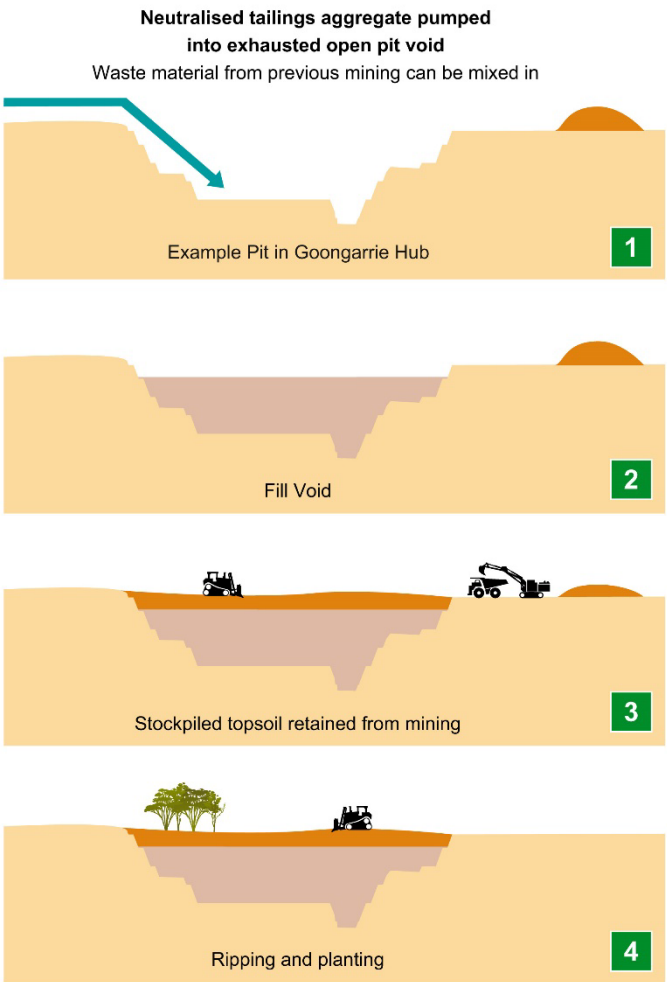
Due to the 2023 expanded development footprint of the Goongarrie Hub which also reflects Ardea's current flowsheet, baseline surveys completed in 2018 have been extended and include further surveys to incorporate the latest environmental standards and guidelines.

For personal use only

While the Autumn fauna, flora and vegetation surveys have been completed, in addition to the Baseline Ecological Study (rewetting trials) of Lake Goongarrie, Lake Owen North and peripheral wetlands undertaken by Stantec Australia Pty Ltd, further surveys will be completed during the September 2023 Quarter. These include targeted conservation significant butterfly and subterranean fauna by consultants Invertebrate Solutions Pty Ltd and Bennelongia Pty Ltd. Other baseline studies will continue through 2023 and will cover Spring fauna and flora surveys, soils and landform, material characterisation, social surrounds assessment, inland waters assessment, Aboriginal heritage and greenhouse gas emissions assessments.

Ardea's lead environmental consultant, Integrated Sustainability Pty Ltd, continues to manage all baseline surveys and provides advice and guidance to Ardea for all other baseline studies which are planned to be finalised in early to mid 2024 for subsequent referral to the Environmental Protection Authority.

Figure 6: Planned Goongarrie Hub in-pit tails disposal and rehabilitation strategy.



Mine rehabilitation methodology is facilitated through four decades of WA open pit gold mine operations, and the KNP footprint is minimised using mining voids for tailings and mullock disposal. Mining voids will be progressively rehabilitated during operations and returned to their pre mining state, by dressing the back filled open pit voids with topsoil (Figure 6) and then revegetating.

In terms of ESG compliance for hydrometallurgical metal processing, the KNP's benign and manageable environmental footprint contrasts strongly with "wet tropical laterite" projects. The tropical laterites require submarine tailings disposal or valley tailings storage with consequent substantial environmental risk. Tailings disposal in these environments tends to be further complicated by high rainfall and the fact that most tropical laterite deposits are in seismically active regions. Additionally, wet tropical laterite production areas commonly involve non-restorable rain forest habitat destruction.

It is doubtful whether wet tropical laterite hydrometallurgical battery metal sources can comply with the ESG standards required by the Japanese, South Korean, European and north American EV sectors, particularly where submarine tailings disposal is used. Similarly, with more than 3,000mm of annual rainfall in the tropical laterites, it is an immense challenge for long-term tailings stabilisation.

The KNP semi-arid climate with robust environmental setting is likely just as important as the premium goethite, high nickel grade and excellent ore rheology for its economic attractiveness.

During the Quarter environmental surveys were completed in the Goongarrie Hub, these included invertebrate fauna, terrestrial and subterranean fauna surveys. Rehabilitation of historic sites at Bulong has now been completed with a total of 362 drill sites rehabilitated and 41 historic shafts fenced off. Rehabilitation of exploration sites at Ardea's Kalpini, Bulong and Siberia South projects is currently in progress with remnant drill-collars plugged below ground, RC sample bags removed, and sumps backfilled and scarified. Rehabilitation of recent hydrogeological drill sites in the Goongarrie Hub is planned for next Quarter.

2. WA NICKEL SULPHIDES and CRITCAL MINERALS

Ardea's extensive and strategic land holding in the Eastern Goldfields of WA comprises over 170 tenements, covering over 4,100km^2 and in addition to the globally significant nickel-cobalt-scandium KNP resource, is highly prospective for nickel sulphides and critical minerals (Figure 7).

Ardea Nickel Sulphide Strategy

Ardea's nickel sulphide exploration strategy complements the development of the KNP. The KNP nickel sulphide targets are an asset in a region of multiple nickel sulphide concentrators, with most constrained by insufficient sulphide feed availability.

Nickel sulphide also has potential value for a nickel laterite operation, in that it is a potential addition to any goethite autoclave feed for exothermic heating (optimise steam use), Eh reduction to control hexavalent chromium and adding nickel and sulphur units to the autoclave reaction vessel, and typically improving overall nickel recoveries.

An additional bonus is that metal concentrations considered deleterious to conventional nickel sulphide flotation concentrator processing do not affect the HPAL process, opening the possibility of mineral extraction from nickel sulphide deposits that may otherwise be overlooked.

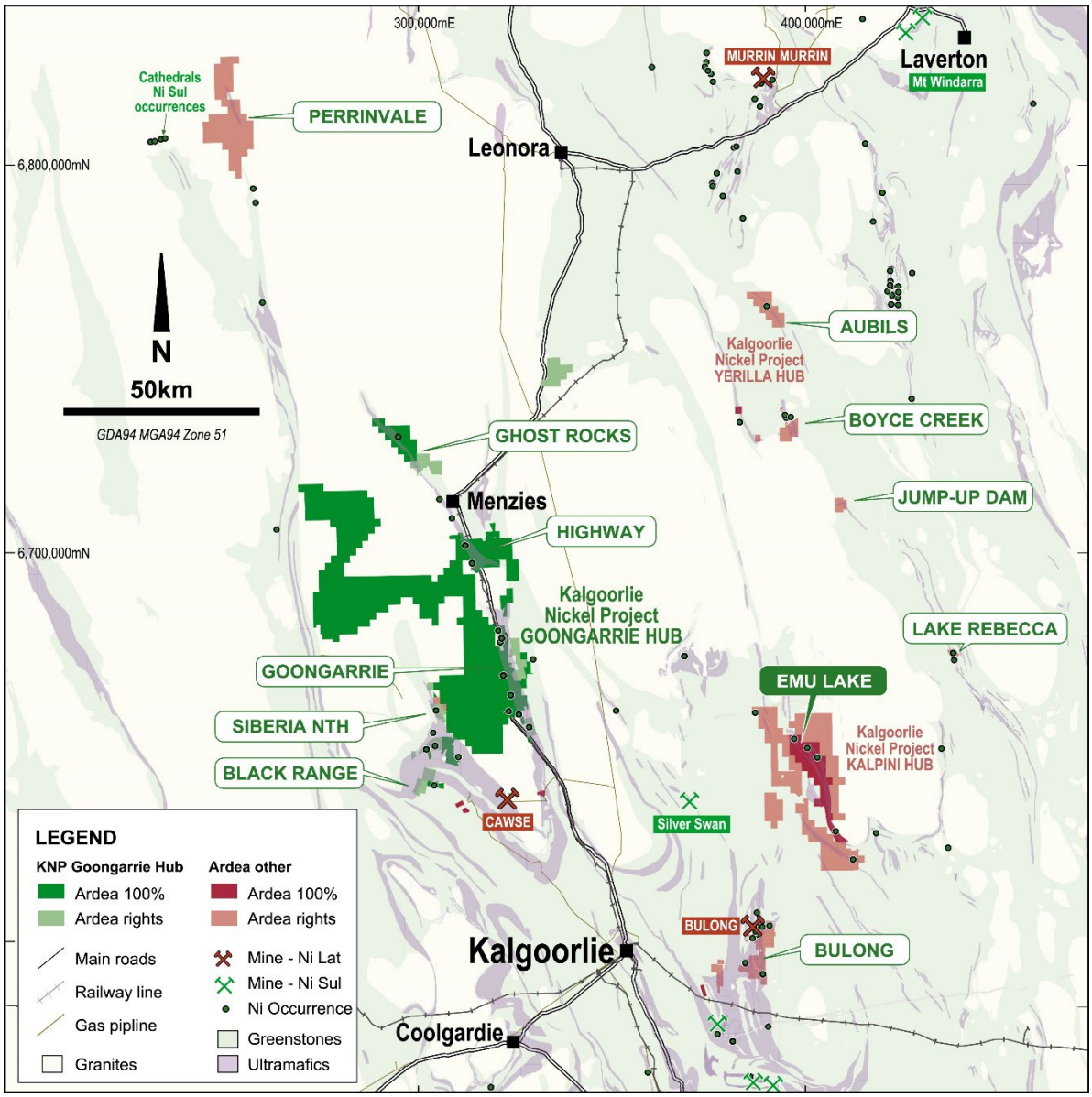


Figure 7: Ardea tenement plan highlighting the location of the Kalpini Project, Emu Lake Nickel Sulphide Camp and nickel mines and deposits in the region. Projection MGA 94 Zone 51.

For personal use only

For personal use only

Kalpini Nickel Sulphide Project

Ardea's Kalpini Project is located 70km northeast of the City of Kalgoorlie-Boulder and covers 121km^2 of contiguous granted tenure 100%-owned by Ardea (Figure 8). The Type 1 massive nickel-copper-PGE sulphides discovered at the Binti Prospect at Emu Lake occur in the Kurnalpi Terrane which is significant given there are only a few other Type 1 nickel sulphide occurrences in this Terrane. Ardea hold approximately 20km strike of the prospective Western Ultramafic sequence that is largely unexplored and highly prospective for primary magmatic nickel sulphide mineralisation.

Regionally there are two distinct Kalpini ultramafic units each with 20-25km strike within Ardea tenure (Figure 8):

- The **Kalpini Eastern Komatiite Belt** hosts the Wellington East and Acra North nickel laterite deposits containing **75Mt at 0.73% nickel and 0.04% cobalt**, for 549.7kt nickel and 32.6kt cobalt (Ardea ASX release 30 June 2023). The ultramafics are typical of the Walter Williams Formation style consisting of a thick 200-600m sheet with olivine orthocumulate upper and lower contacts and core olivine meso-adcumulate (Dunitic Sheet Flows-Layered Lava Lakes) which weathers to nickel laterite
- The **Kalpini Western Komatiite Belt** hosts the Binti nickel sulphide mineralisation. There are at least two fertile nickel sulphide ultramafic flows at Emu Lake. The volcanics are characterised by a bi-modal co-magmatic suite, with each cycle having a footwall dacite volcanic overlain by ultramafic volcanic flows. The ultramafics are orthocumulate flows typically 10-40m thick, with massive, matrix, blebby and disseminated nickel sulphides identified in the Western Ultramafic (**WU**) and Central Ultramafic (**CU**)

The 2021-2022 drill testing of the Western Ultramafic at Binti discovered significant komatiite-hosted massive Ni-Cu-PGE sulphides ie **AELD0003: 2.72m at 5.42% Ni and 0.85% Cu** from 391.04m including 1.23m at 8.22% Ni and 0.56% Cu from 391.04m (Ardea ASX releases 3 December 2021 and 14 January 2022).

During the June Quarter, regional technical targeting using detailed geochemical ratios, geophysical data, geological and structural interpretation was completed, which generated twelve nickel sulphide exploration targets in the ~20km strike Western Komatiite sequence (Figure 8). An RC drill program was designed with 52 RC holes for 11,200m.

At the Binti Prospect updated 3D modelling indicated the 'hottest' ultramafic flows are at Binti Central at depth. The current interpretation is that the massive sulphide mineralisation at the Binti Prospect may be defined by tight folding around primary lava pathways, with mineralisation on or close to primary basal contact positions. These mineralised lava pathway positions are currently interpreted as moderate to steeply south plunging and are open both up and down plunge (Figure 9). Previous nickel sulphide intersections at the Binti Gossan prospect occur in the Central Ultramafic, whereas thicker intersections at Binti Central and Binti South occur in the Western Ultramafic which is absent at the Binti Gossan.

While the width of these potential lava channels may appear limited (typically 100m), they can have significant continuation down plunge. An example is the high-grade Silver Swan mine located 35km to the west, that has a shallow strike length of <100m but a down plunge extent of over 1,000m. A diamond drill program comprising six holes for 3,210m was planned mostly in the Binti area (Figure 9). Both planned drill programs could be executed once current Goongarrie Hub feasibility programs are completed.

During the June Quarter assay results were received from the aircore drill program of twenty-four holes for 1,077m completed in the December 2022 Quarter (Ardea ASX release 2 May 2023). Assay results returned significant nickel sulphide anomalism in AELA0022: 14m @ 0.52% Ni, 231ppm Cu and 129ppb Pt+Pd from 24m including 4m @ 0.62% Ni, 310ppm Cu and 177ppb Pt+Pd from 32m (Figure 10). Textures including presence of distinctive weathered pits in the drill chips indicate weathered nickel sulphide mineralisation in saprock ultramafic. The intersection is close to eastern basal contact of interpreted Western Ultramafic 1km south-southeast of Binti South (Figure 10). The combination of the anomalous geochemistry, flank of magnetic anomaly, the stratigraphic interpretation and absence of surface EM in this area make this a compelling nickel sulphide target to follow up as part of the planned drill program.

Regional mapping and rock chip sampling at Kalpini has continued during the Quarter. Significant outcrop was identified in M28/205 with a similar stratigraphic sequence interpreted as at Binti Gossan/Binti South ~10km to the north (Figure 8). This is significant as it indicates the geology is likely consistent across this section of the belt and gives greater confidence that potential mineralised nickel sulphide channels exist within the entire Western Komatiite Belt.

For personal use only

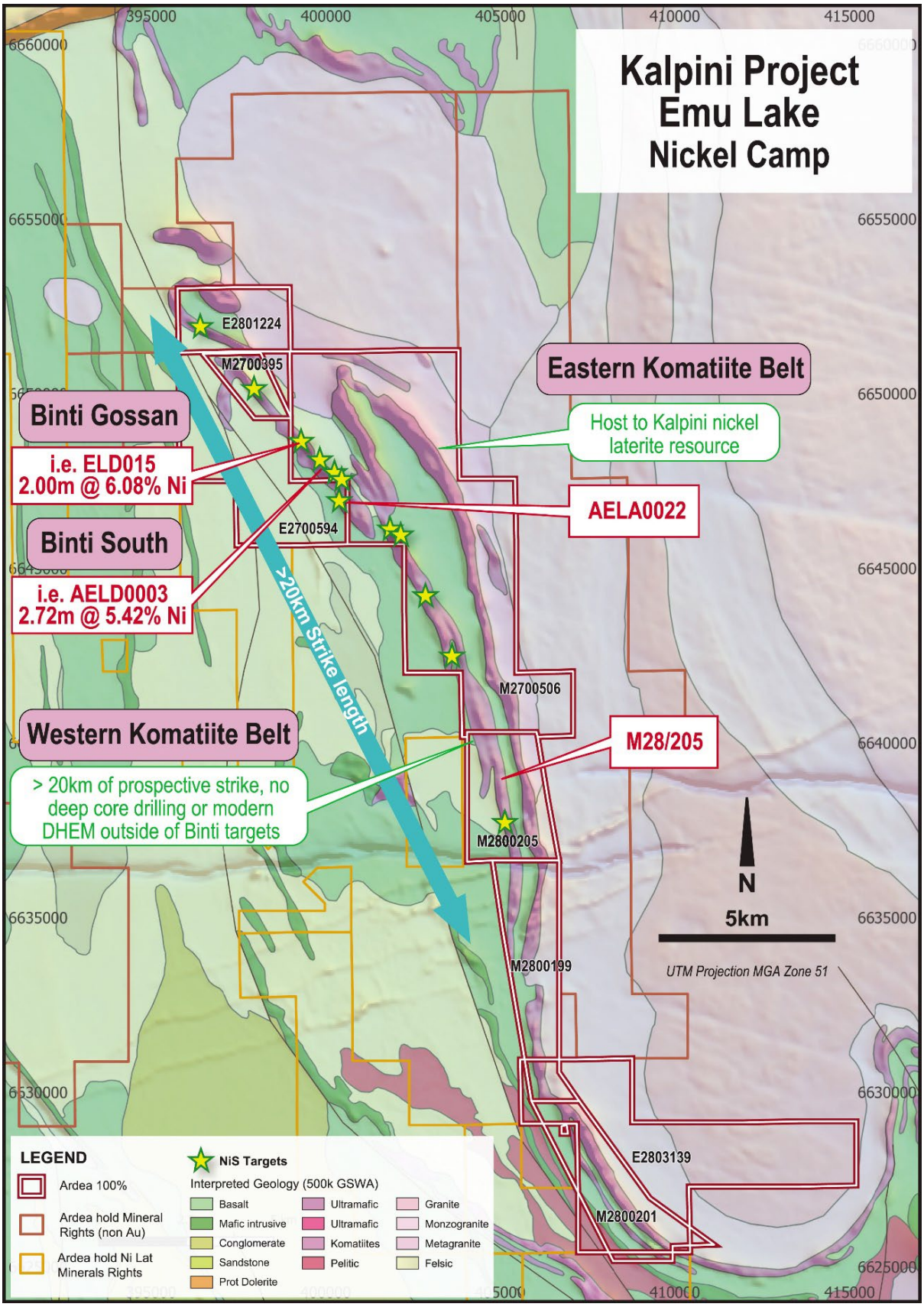


Figure 8: The Kalpini Project showing interpreted geology and Komatiite Belts. The historic nickel laterite resources are located on the Eastern Komatiite Belt, with the Western Belt highly prospective for nickel sulphide mineralisation. Tenements are shown, with recent nickel sulphide (NiS) targets (stars). Projection MGA 94 Zone 51.

For personal use only

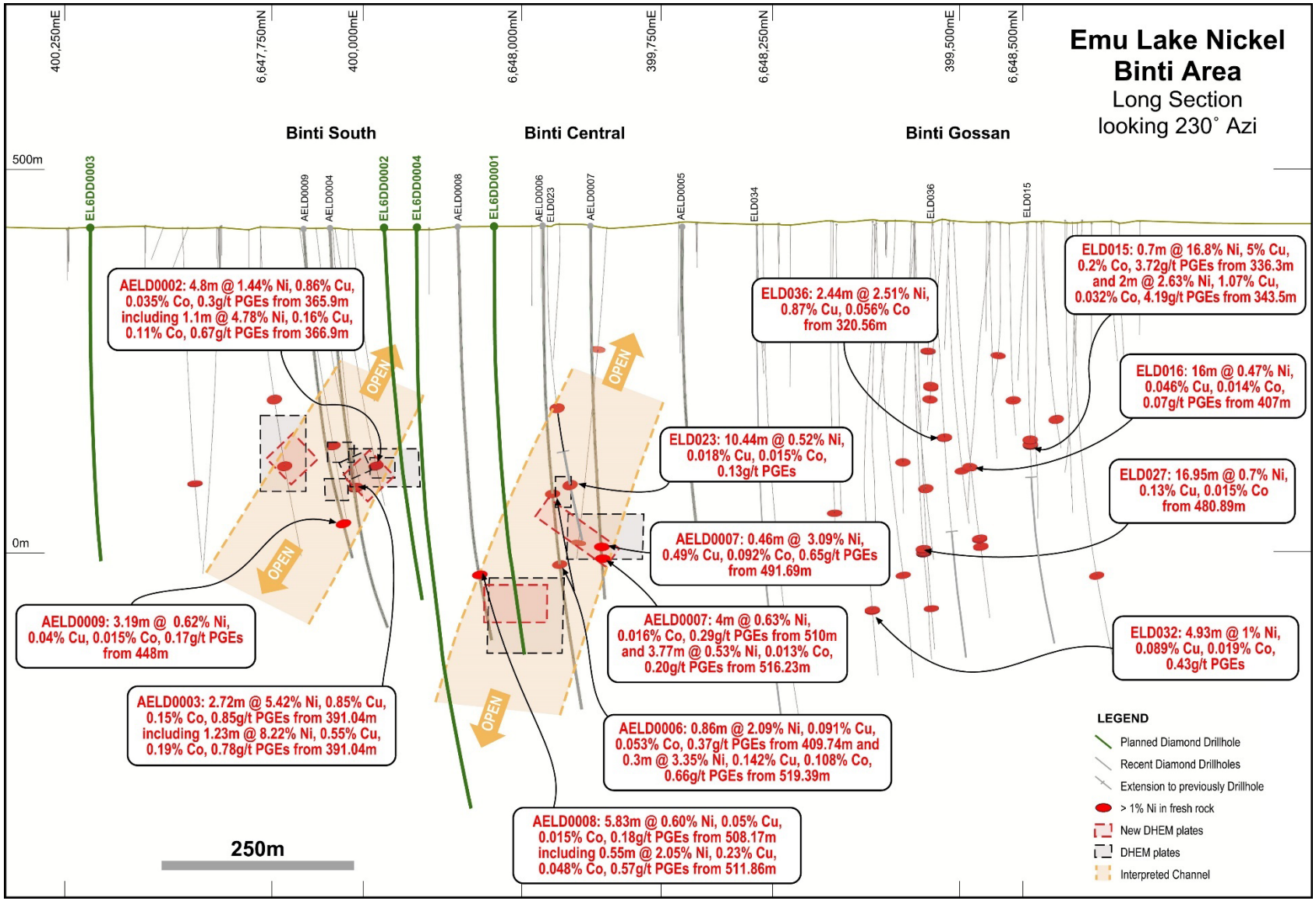


Figure 9: Long section of the Binti prospect showing significant nickel sulphide intersections from previous drilling, interpreted mineralised channels and associated DHEM plates. Proposed drill holes shown in green. Projection GDA94 Zone 51

For personal use only

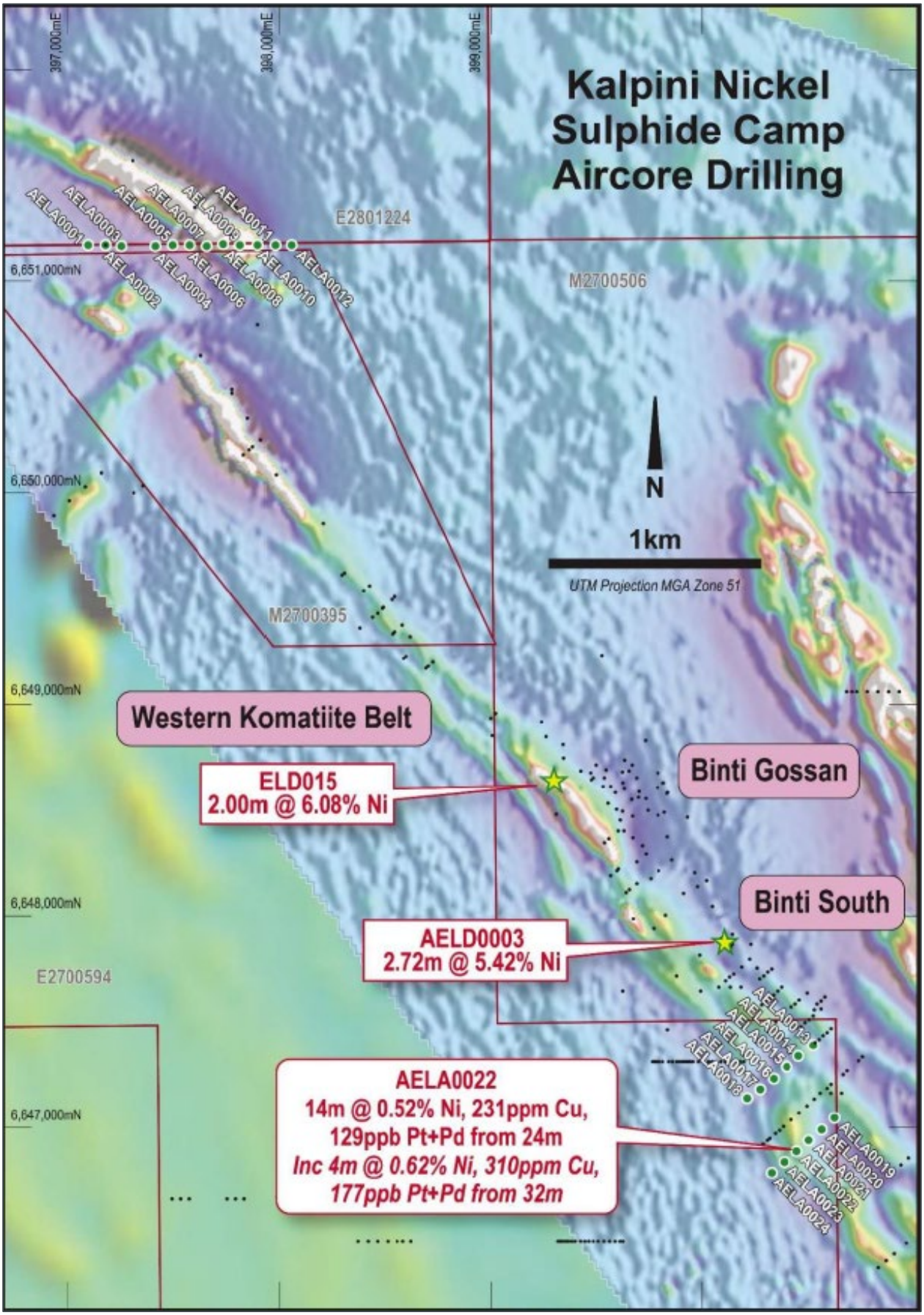


Figure 10: Location of Aircore drillholes (AELA0001 – AELA0024) including significant intersection in AELA0022

For personal use only

Lithium Exploration

During the Quarter lithium exploration was focused on testing Lithium-Caesium-Tantalum (**LCT**) pegmatite targets primarily at the Perrinvale and Ghost Rocks Projects, that were recognised as priority projects from the desktop review completed by consultant CSA Global during the December 2022 Quarter.

The **Perrinvale Project** has had no previous exploration for LCT pegmatites or komatiite-hosted nickel sulphides. The northern portion of the tenement was assessed with a four-day field sampling and mapping program in the previous Quarter with extensive outcropping fractionated pegmatites identified (25 pegmatites sampled), the largest extending >200m along strike and up to 20m thick. Sampling of the untested komatiite ultramafic that extends for ~10km strike was also completed.

Assay results were returned from 52 rock chip samples with results indicating more anomalous geochemistry for LCT pegmatites, but low level lithium results (<300ppm), though these may still be a halo to mineralisation. Outcropping pegmatites to the west of the ultramafic and a larger one to the east (+170m strike) had anomalous indicator geochemistry up to 1890ppm Rb, 45 K/Rb, 19ppm Cs, 89.5ppm Ce and 23ppm Ta (Figure 11). Assay results from sampling of the ultramafic showed an increase in MgO values across the unit heading east (possibly indicating base of flow) though overall low nickel values in the spinifex textured komatiite (highest 634ppm Ni, 1150m ppm Cr).

Further follow-up field sampling/mapping for LCT pegmatites was completed at Perrinvale during the Quarter focused on the northern end of the tenure, which identified multiple pegmatite swarms with variable mineralogy. Assay results are due next Quarter.

At the **Ghost Rocks Project** multiple field sampling and mapping programs were completed during the Quarter. Assay results returned from additional 32 rock chip samples with multiple samples having K/Rb<50 and up to 1500ppm Rb, particularly in the southern pegmatite swarms.

Further follow-up rock chip sampling/mapping was completed at Ghost Rocks during the Quarter. Several new large pegmatites were identified with strike extent from 200-500m long. Assay results are due next Quarter.

An auger drilling program was completed on the far southern eastern tenements at Ghost Rocks (P29/2511-2515 and P29/2538-2539) to test early-stage targets. The program consisted of 152 planned holes each drilled to 2.5m deep, completed in early June. Assay results are expected early next Quarter.

Other Projects

Bulong

Rock chip sampling on P25/2650 in western Bulong identified a vanadium-titanium-iron gossan (5x20m) with assay results returning 0.48% V_2O_5, 2.38% Ti and 57% Fe. These results will be followed-up to take further samples and potentially determine basement geology.

Siberia North

Recent field work at Siberia North identified two potentially gossanous outcrops located along the basal contact of the Walter Williams Formation which were rock chip sampled, with assays expected next Quarter. At this stage it is undetermined if the gossanous material is related to bedrock sulphide mineralisation or iron-rich weathering above the laterite resource.

Bedonia

Ardea are currently finalising negotiations regarding divestment of three tenements E63/1828, E63/1856 and E63/1857 comprising the Bedonia project located approximately 75km east of Norseman. The sale of the tenements will be finalised upon the purchaser completing a successful capital raising and IPO listing on the ASX. A further update will be provided next Quarter.

For personal use only

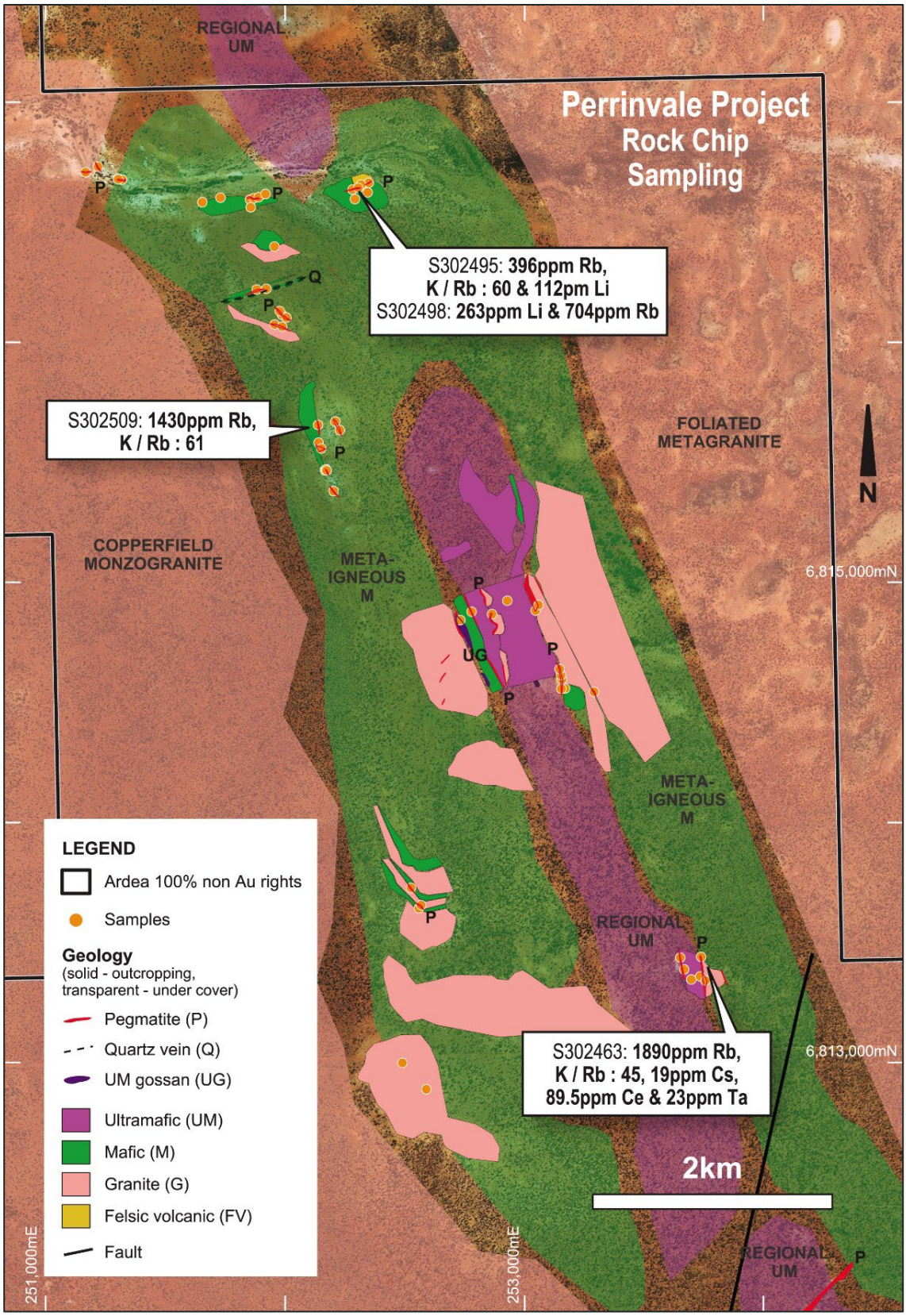


Figure 11: Perrinvale map showing some anomalous assay results from recent field sampling program and preliminary geological interpretation. Projection: MGA94 Zone 51.

For personal use only

3. CORPORATE

Strategy

Ardea's priority is the KNP nickel-cobalt laterite project development, commencing with Goongarrie Hub, to produce battery minerals for the LIB supply chain to further advance the transition to a low carbon future.

The starter KNP development project is the Goongarrie Hub to capitalise on the premium goethite ore type and infrastructure-rich location. Complementary exploration opportunities in nickel sulphides and Critical Minerals will also be pursued, such as the Ardea nickel sulphide discoveries at Emu Lake, and LCT pegmatite exploration.

Finance

The Company's cash position was $10.6M at Quarter end with no debt. All current programs are well funded.

Issued capital at 30 June 2023 was 171,894,772 shares, with 6,690,000 Performance Rights and 4,000,000 options.

During the Quarter, 289,000 Performance Rights were issued (ASX release 24 April 2023) and 392,000 shares were issued to Directors and employees pursuant to the vesting of staff Performance Rights (ASX release 14 June 2023).

Summary of Expenditures for the Quarter

During the Quarter, the Company incurred a total net expenditure from operating activities of $3.8M. This was made up of $3.4M expended on exploration and evaluation activities, primarily feasibility studies, $123k on staff costs and $414k on administrative and corporate costs, with the balance on minor items. Funds received during the Quarter included interest of $119k, GST refund of $15k and tenement rents refund of $2k.

Included in these costs were payments made to Directors of the entity and their associates. These payments were Directors Salaries and Superannuation payments and Consulting fees of $228k and rental for the Company's West Kalgoorlie operations office of $25k for the Quarter. All payments were made on an arm's length basis.

Further details on Quarterly expenditures are included in the Appendix 5B – Quarterly Cashflow Report attached to this Quarterly Report.

Investor Relations and Stakeholder Engagement

During the Quarter, management continued discussions with multiple stakeholders.

4. LOOKING FORWARD

During the September 2023 Quarter, Ardea will focus upon the following programs.

Kalgoorlie Nickel Project

Ardea will continue to work with all stakeholders, including industry groups and the Federal and State Governments to make sure project development is predicated on meeting high industry standards.

KNP DFS

- Work with the Consortium (ASX Announcement 5 July 2023) on defining and costing the scope of work for the DFS
- Further develop the Scopes of Services for the Optimisation Studies and the DFS, together with the Consortium
- Obtain updated test work proposals
- Seek proposals from suitably qualified and experienced consultants and contractors for the above

For personal use only

Strategic Partner Process

- Work with the Consortium to conclude their due diligence and finalise binding documents
- Maintain engagement with proactive groups who have previously executed confidentiality agreements and are already active in the Virtual Data Room

In all Strategic Partner engagements, securing off-take is the primary driver, with these rights only available if there is a project equity investment and critically, securing project finance.

Mineral Resource Updates

- Completing an updated resource model for the Siberia North deposit aimed at aligning the LUC estimation methodology with the other five Goongarrie Hub deposits
- Completing an initial Lake Rebecca MRE
- Continuing MRE work at Ghost Rocks, Siberia South, Kalpini, Bulong, Yerilla and satellite nickel-cobalt deposits

These satellite deposits can be considered as additional plant feed for the Goongarrie Hub, or developed to support a standalone Kalpini Hub or Yerilla Hub to further increase nickel-cobalt production rates from the KNP.

Stakeholder Engagement

- Community consultation, in particular with our First Nations groups, the City of Kalgoorlie Boulder, Shire of Menzies, Southern Ports Esperance and all other stakeholders.
- Continue engagement with groups such as the Australian Commonwealth Government Austrade, DFAT, CMO and MPFA, WA State Government, and for R&D the FBICRC and CSIRO.

WA Nickel Sulphide, Critical Minerals

Kalpini Nickel Sulphides

An RC exploration drill program of 52 RC holes for 11,200m has been planned to test the 12 nickel sulphide exploration targets in the ~20km strike Western Komatiite sequence at Kalpini. A diamond drill program has been planned comprising six holes for 3,210m, mostly in the Binti area where interpreted mineralised lava channels are still open at depth. The proposed drill programs at Kalpini may be executed once current Goongarrie Hub feasibility programs are completed.

In the interim, low impact field mapping and sampling of the fertile Western Ultramafic will continue.

Lithium

Further follow-up field sampling/mapping will be completed at Perrinvale and Ghost Rocks during the next Quarter pending assay results and ongoing geological interpretation of the extensive pegmatite swarms.

Other KNP Projects

Ardea will continue assessment for nickel sulphide potential at other projects in the KNP including the Goongarrie Hub, Kalpini Hub, Yerilla Hub and Perrinvale. All projects comprise significant volumes of komatiite ultramafic flows that are either underexplored or unexplored for magmatic nickel sulphides.

Investor Relations and Stakeholder Engagement

During the September 2023 Quarter, Ardea has a booth (#92) and presentation slot (9 August 11:45am AWST) at the iconic Diggers & Dealers Mining Forum running from 7 to 9 August 2023.

The Company will also be hosting a Goongarrie Hub site visit on 9 and 10 August 2023.

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

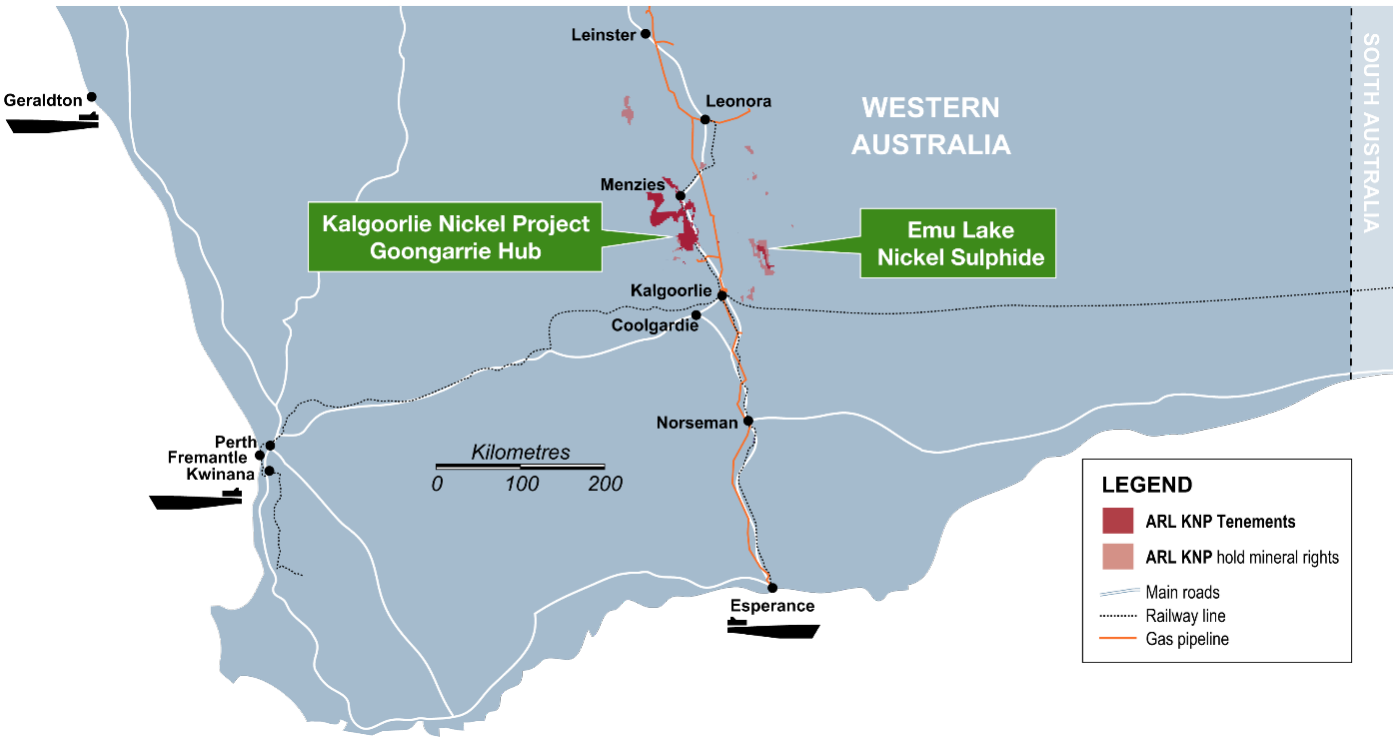
For further information regarding Ardea, please visit https://ardearesources.com.au/ or contact:

Andrew Penkethman
Managing Director and Chief Executive Officer
Tel +61 8 6244 5136

About Ardea Resources

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

- Development of the Kalgoorlie Nickel Project (**KNP**) and its sub-set the Goongarrie Hub, a globally significant series of nickel-cobalt and Critical Mineral deposits which host the largest nickel-cobalt resource in the developed World at **854Mt at 0.71% nickel and 0.045% cobalt for 6.1Mt of contained nickel and 386kt of contained cobalt** (Ardea ASX release 30 June 2023), located in a jurisdiction with exemplary Environmental Social and Governance (**ESG**) credentials.
- Advanced-stage exploration at compelling nickel sulphide targets, such as Kalpini, and Critical Minerals targets including lithium, scandium and Rare Earth Elements throughout the KNP Eastern Goldfields world-class nickel-gold province, with all exploration targets complementing the KNP nickel development strategy.



Follow Ardea on social media

Ardea

Australian Federal Government
- Major Project Status

KNP KALGOORLIE NICKEL PROJECT
Battery Minerals to the World

For personal use only

For personal use only

COMPLIANCE STATEMENT (JORC CODE (2012))

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

1. *Nickel Sulphide Discovery Confirmed at Emu Lake, 3 December 2021.*
2. *Emu Lake Nickel Sulphide Discovery confirmed with 2.72m at 5.42% Ni, 14 January 2022.*
3. *Kalgoorlie Nickel Project Recognition on All Tiers of Australian Government, 21 March 2022.*
4. *Kalgoorlie Nickel Project: Metallurgical Update – Mineralised Neutraliser, 16 November 2022.*
5. *Ardea Completes KNP ESG Accreditation from Independent Leading Global Platform, 24 November 2022.*
6. *Notification of Issue, Conversion or Payment up of Unquoted Equity Securities, 24 April 2023.*
7. *Nickel sulphide anomalism from aircore drilling at Kalpini Project, 2 May 2023.*
8. *Mineralised Neutraliser Global Patent Lodged, 15 June 2023.*
9. *Kalgoorlie Nickel Project Mineral Resource Estimate Exceeds 6 Million Tonne Contained Nickel, 30 June 2023.*
10. *KNP Goongarrie Hub Ore Reserve and Feasibility Study Defines +40 Year Operation with Strong Financial Metrics, 5 July 2023.*
11. *Ardea Kalgoorlie Nickel Project – MOU with Sumitomo Metal Mining, Mitsubishi Corporation, and Mitsu & Co., Ltd, 5 July 2023.*

Competent Persons Statement

Resource Estimation, Exploration Results, and Industry Benchmarking

The Resource Estimation, Exploration Results and Industry Benchmarking summaries are based on information reviewed or compiled by Mr Ian Buchhorn, and Mr Andrew Penkethman. Mr Buchhorn is a Member of the Australasian Institute of Mining and Metallurgy and Mr Penkethman is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Both Mr Buchhorn and Mr Penkethman are full-time employees of Ardea Resources Limited and have sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are 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 Buchhorn and Mr Penkethman have reviewed this press release and consent to the inclusion in this report of the information in the form and context in which it appears. Mr Buchhorn and Mr Penkethman own Ardea shares.

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.

Ardea wishes to clarify that its current Kalgoorlie Nickel Project (KNP) Mineral Resource Estimate (MRE) following JORC Code (2012) guidelines is:

Camp	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	361	0.73	0.047	2,622	169
	Inferred	471	0.70	0.043	3,272	200
GRAND TOTAL	***Combined***	***854***	***0.71***	***0.045***	***6,101***	***386***

Note: 0.5% nickel cutoff grade used to report resources. Minor discrepancies may occur due to rounding of appropriate significant figures.

The Mineral Resource Estimate information shown in this ASX release has been previously released on the ASX platform by Ardea in ASX release 30 June 2023, in accordance with Listing Rule 5.8.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcement noted above and that all material assumptions and technical parameters underpinning the Mineral Resource Estimate in the previous market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the original market announcements.

For personal use only

ASX CHAPTER 5 COMPLIANCE AND PFS CAUTIONARY STATEMENT

The Company has concluded that it has a reasonable basis for providing the forward-looking statements and forecast financial information included in this announcement. The detailed reasons for that conclusion are outlined throughout this announcement and all material assumptions, including the JORC modifying factors, upon which the forecast financial information is based are disclosed in this announcement. This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules.

The actual results could differ materially from a conclusion, forecast or projection in the forward-looking information. Certain material factors were applied in drawing a conclusion or making a forecast or projection as reflected in the forward-looking information.

The KNP Goongarrie Hub Project is at the PFS phase and although reasonable care has been taken to make sure 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 scandium 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 PFS, which are based on forward looking statements, is that the Goongarrie Hub is considered to have positive economic potential.

The Mineral Resource used for the PFS was classified under JORC Code (2012) Guidelines and announced by the Company on 30 June 2023. The cut-off grades adapted for the PFS and reported in Table 2 are the basis of the production target assumed for the PFS.

The Company believes it has a reasonable basis to expect to be able to fund and further develop the KNP Goongarrie Hub. However, there is no certainty that the Company can raise funding when required.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

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

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and amount of funding required to execute the Company's programs, 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, 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 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

Ardea Resources Limited

ABN	Quarter ended ("current quarter")
30 614 289 342	30 June 2023

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	2	2
1.2	Payments for		
	(a) exploration & evaluation	(753)	(4,825)
	(b) Feasibility Studies	(2,691)	(7,044)
	(c) production	-	-
	(d) staff costs	(123)	(553)
	(e) administration and corporate costs	(414)	(1,389)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	119	234
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid/received	15	494
1.7	Government grants and tax incentives	-	1,781
1.8	Other (provide details if material) –	-	-
		-	-
1.9	**Net cash from / (used in) operating activities**	**(3,845)**	**(11,300)**
2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	(9)	(66)
	(d) exploration & evaluation	-	-
	(e) investments	-	-
	(f) other non-current assets	-	-

For personal use only

For personal use only

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	**Net cash from / (used in) investing activities**	**(9)**	**(66)**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	(5)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	**Net cash from / (used in) financing activities**	**-**	**(5)**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**	(3,854)	(11,371)
4.1	Cash and cash equivalents at beginning of period	14,502	22,018
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(3,845)	(11,299)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(9)	(66)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	(5)

Consolidated statement of cash flows		Current quarter $A'000	Year to date (12 months) $A'000
4.5	Effect of movement in exchange rates on cash held	-	
4.6	**Cash and cash equivalents at end of period**	**10,648**	**10,648**

5.	**Reconciliation of cash and cash equivalents** at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter $A'000	Previous quarter $A'000
5.1	Bank balances	2,465	1,837
5.2	Call deposits	8,183	12,665
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	**Cash and cash equivalents at end of quarter (should equal item 4.6 above)**	**10,648**	**14,502**

6.	**Payments to related parties of the entity and their associates**	Current quarter $A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	228
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.

Salaries, Directors fees and Consulting fees paid to Directors - $203,000

Payments for Kalgoorlie Office to a Director related entity for the quarter - $25,000

For personal use only

For personal use only

7.	**Financing facilities** *Note: the term "facility' includes all forms of financing arrangements available to the entity.* *Add notes as necessary for an understanding of the sources of finance available to the entity.*	**Total facility amount at quarter end $A'000**	**Amount drawn at quarter end $A'000**
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	**Total financing facilities**	-	-
7.5	**Unused financing facilities available at quarter end**		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	**Estimated cash available for future operating activities**	**$A'000**
8.1	Net cash from / (used in) operating activities (item 1.9)	(3,845)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(3,845)
8.4	Cash and cash equivalents at quarter end (item 4.6)	10,648
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	10,648
8.7	**Estimated quarters of funding available (item 8.6 divided by item 8.3)**	2.77

Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.

8.8 If item 8.7 is less than 2 quarters, please provide answers to the following questions:

8.8.1 Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?

Answer: N/A

8.8.2 Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?

Answer: N/A

8.8.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?
Answer: N/A	
Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.	

Compliance statement

1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.

2 This statement gives a true and fair view of the matters disclosed.

Date: 27 July 2023

Authorised by: Ardea Board of Directors

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [*name of board committee – eg Audit and Risk Committee*]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.

For personal use only

For personal use only

Ardea Resources Limited Tenement Schedule (WA) as at 30 June 2023

Goongarrie Hub

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E24/196	Goongarrie	100	Live		**M24/731**	Goongarrie	100	Live	3
E24/209	Goongarrie	100	Live		**M24/732**	Goongarrie	100	Live	3
E24/211	Goongarrie	100	Pending		**M24/744**	Goongarrie	100	Live	
E29/934	Goongarrie	100	Live		**M24/778**	Goongarrie	100	Live	3
E29/1028	Goongarrie	100	Live		**M29/167**	Goongarrie	100	Live	
E29/1038	Goongarrie	100	Live		**M29/202**	Goongarrie	100	Live	
E29/1039	Goongarrie	100	Pending		**M29/272**	Goongarrie	100	Live	
E29/1045	Goongarrie	100	Live		**M29/278**	Goongarrie	100	Live	
E29/1048	Goongarrie	100	Live		**M29/423**	Goongarrie	100	Live	
E30/500	Goongarrie	100	Live		**M29/424**	Goongarrie	100	Live	
E30/501	Goongarrie	100	Live		**M29/426**	Goongarrie	100	Live	
E30/502	Goongarrie	100	Live		**P24/5260**	Goongarrie	100	Live	
G29/25	Goongarrie	100	Pending		**P24/5328**	Goongarrie	100	Live	
L24/239	Goongarrie	100	Live		**P24/5329**	Goongarrie	100	Live	
L29/134	Goongarrie	100	Live		**P24/5265**	Goongarrie-Carr Boyd	100	Live	
L29/135	Goongarrie	100	Live		**P24/5169**	Goongarrie-Windanya	100	Live	
E2/1	Goongarrie	100	Live		**P24/5480**	Goongarrie-Windanya	100	Live	
L30/68	Goongarrie	100	Live		**M24/919**	Goongarrie-Scotia	100 Ni rights	Live	6
L16/141	Goongarrie	100	Live		**M24/959**	Goongarrie-Scotia	100 Ni rights	Live	6
L30/85	Goongarrie	100	Live		**M24/541**	Goongarrie	100	Live	
P29/2646	Highway North	100	Live		**P29/2650**	Highway North	100	Live	
P29/2647	Highway North	100	Live		**P29/2651**	Highway North	100	Live	
P29/2648	Highway North	100	Live		**E29/1082**	Goongarrie	100	Live	
P29/2649	Highway North	100	Live		**E29/1089**	Goongarrie	100	Live	
P24/5528	Goongarrie	100	Live		**P29/2561**	Highway North	100	Live	
P29/2559	Highway North	100	Live		**P29/2562**	Highway North	100	Live	
P29/2560	Highway North	100	Live		**E29/941**	Ghost Rocks	100	Live	
P29/2501	Highway - Moriarty	100	Live		**E29/981**	Ghost Rocks	100	Live	
P29/2511	Ghost Rocks	100	Live		**M29/214**	Highway	100	Live	
P29/2512	Ghost Rocks	100	Live		**P29/2538**	Ghost Rocks	100	Live	
P29/2513	Ghost Rocks	100	Live		**P29/2539**	Ghost Rocks	100	Live	
P29/2514	Ghost Rocks	100	Live		**E29/1083**	Goongarrie	100	Live	
P29/2515	Ghost Rocks	100	Live		**L16/147**	Goongarrie – Credo West	100	Live	
L16/143	Goongarrie – Credo West	100	Live		**L16/148**	Goongarrie – Credo West	100	Live	
L16/144	Goongarrie – Credo West	100	Live		**L30/95**	Goongarrie – Credo West	100	Live	
L16/145	Goongarrie – Credo West	100	Live		**L24/253**	Goongarrie	100	Pending	
L16/146	Goongarrie – Credo West	100	Live		**L24/254**	Goongarrie	100	Pending	
L24/252	Goongarrie	100	Pending		**L24/255**	Goongarrie	100	Pending	
E29/1235	Goongarrie	100	Pending						

Goongarrie Hub Expansion

Siberia

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E24/203	Siberia	100 non Au-Ag righ	Live	4	**P24/5235**	Siberia	100	Live	
E29/889	Siberia	100 non Au-Ag righ	Live	4	**P24/5236**	Siberia	100	Live	
M24/634	Siberia	100 non Au-Ag rights	Live	1,4	**P29/2484**	Siberia	100	Live	
M24/660	Siberia	100 non Au-Ag rights	Live	4	**P29/2485**	Siberia	100	Live	
M24/663	Siberia	100 non Au-Ag rights	Live	4	**P24/5416**	Siberia	100	Live	
M24/664	Siberia	100 non Au-Ag rights	Live	4	**P24/5417**	Siberia	100	Live	
M24/665	Siberia	90 non Au-Ag rights	Live	2,4	**P24/5418**	Siberia	100	Live	

M24/683	Siberia	100 non Au-Ag rights	Live	4	**P24/5566**	Siberia	100	Live	
M24/686	Siberia	100 non Au-Ag rights	Live	4	**P24/5567**	Siberia	100	Live	
M24/772	Siberia	100 non Au-Ag rights	Live	4	**L24/248**	Siberia	100	Pending	
M24/797	Siberia	100 non Au-Ag rights	Live	4	**L24/249**	Siberia	100	Pending	
M24/915	Siberia	100 non Au-Ag rights	Live	4	**L24/250**	Siberia	100	Live	
M24/916	Siberia	100 non Au-Ag rights	Live	4	**L24/251**	Siberia	100	Pending	
M24/1002	Siberia	100 non Au-Ag rights	Pending	4	**P24/5599**	Siberia	100	Live	
P24/5618	Siberia South	100	Pending		**P24/5623**	Siberia South	100	Pending	
P24/5619	Siberia South	100	Pending		**P24/5624**	Siberia South	100	Pending	
P24/5620	Siberia South	100	Pending		**P24/5625**	Siberia South	100	Pending	
P24/5621	Siberia South	100	Pending		**L29/181**	Siberia	100	Pending	
P24/5622	Siberia South	100	Pending						

Goongarrie Hub Expansion
Black Range

Tenure	Location	Ardea Interest (%)	Status	Note
M24/757	Black Range	100 non Au-Ag rights; 100 ownership	Live	4
M24/973	Black Range	100 non Au-Ag rights	Pending	4
P24/4395	Black Range	100 non Au-Ag rights	Live	4
P24/4396	Black Range	100 non Au-Ag rights	Live	4
P24/4400	Black Range	100 non Au-Ag rights	Live	4
P24/4401	Black Range	100 non Au-Ag rights	Live	4
P24/4402	Black Range	100 non Au-Ag rights	Live	4
P24/4403	Black Range	100 non Au-Ag rights	Live	4
P24/5593	Black Range	100% non Au rights	Pending	14
P24/5594	Black Range	100% non Au rights	Pending	14
P24/5595	Black Range	100% non Au rights	Pending	14
P24/5596	Black Range	100% non Au rights	Pending	14

Kalpini Hub

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E27/524	Kalpini	100 non Au rights	Live	9	**P25/2454**	Kalpini-Bulong	100 non Au rights	Live	14
E27/606	Kalpini	100 non Au rights	Live	14	**P25/2455**	Kalpini-Bulong	100 non Au rights	Live	14
E27/607	Kalpini	100 non Au rights	Live	14	**P25/2456**	Kalpini-Bulong	100 non Au rights	Live	14
E28/1224	Kalpini	100	Live		**P25/2457**	Kalpini-Bulong	100 non Au rights	Live	14
E28/2978	Kalpini	100 non Au rights	Live	14	**P25/2458**	Kalpini-Bulong	100 non Au rights	Live	14
M27/395	Kalpini	100	Live		**P25/2459**	Kalpini-Bulong	100 non Au rights	Live	14
M27/506	Kalpini	100	Live		**P25/2460**	Kalpini-Bulong	100 non Au rights	Live	14
M27/512	Kalpini	100	Pending		**P25/2461**	Kalpini-Bulong	100 non Au rights	Live	14
M28/199	Kalpini	100	Live		**P25/2482**	Kalpini-Bulong	100 non Au rights	Live	14
M28/201	Kalpini	100	Live		**P25/2483**	Kalpini-Bulong	100 non Au rights	Live	14
M28/205	Kalpini	100	Live		**P25/2484**	Kalpini-Bulong	100 non Au rights	Live	14
E27/278	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2559**	Kalpini-Bulong	100 non Au rights	Live	14
E27/438	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2560**	Kalpini-Bulong	100 non Au rights	Live	14
E27/520	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2561**	Kalpini-Bulong	100 non Au rights	Live	14
E27/579	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2609**	Kalpini-Bulong	100 non Au rights	Live	14
E28/1746	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2613**	Kalpini-Bulong	100 non Au rights	Live	14
E28/2483	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2614**	Kalpini-Bulong	100 non Au rights	Live	14
E25/578	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2615**	Kalpini-Bulong	100 non Au rights	Live	14
M25/59	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2650**	Kalpini-Bulong	100 non Au rights	Live	14
M25/134	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2305**	Kalpini-Bulong	100 non Au rights	Live	13, 14
M25/145	Kalpini-Bulong	100 non Au rights	Live	14	**M31/488**	Kalpini-Lake Rebecca	100 non Au rights	Pending	14
M25/151	Kalpini-Bulong	100 non Au rights	Live	14	**P31/2038**	Kalpini-Lake Rebecca	100 non Au rights	Live	14
M25/161	Kalpini-Bulong	100 non Au rights	Live	14	**P31/2039**	Kalpini-Lake Rebecca	100 non Au rights	Live	14
M25/171	Kalpini-Bulong	100 non Au rights	Live	14	**P31/2040**	Kalpini-Lake Rebecca	100 non Au rights	Live	14
M25/187	Kalpini-Bulong	100 non Au rights	Live	14	**E27/647**	Kalpini	100 non Au rights	Live	14
M25/209	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2306**	Kalpini-Bulong	100 non Au rights	Live	13, 14
E27/646	Kalpini	100 non Au rights	Live	14	**M25/19**	Kalpini-Bulong	100 non Au rights	Live	13, 14

For personal use only

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
P25/2295	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2307**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2296	Kalpini-Bulong	100 non Au rights	Live	13, 14	**P25/2308**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2297	Kalpini-Bulong	100 non Au rights	Live	13, 14	**P25/2408**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2304	Kalpini-Bulong	100 non Au rights	Live	13, 14	**P25/2409**	Kalpini-Bulong	100 non Au rights	Live	13, 14
E27/692	Kalpini-Bulong	100 non Au rights	Live	14	**L27/102**	Kalpini	100	Pending	
P25/2743	Bulong	100	Pending		**L31/88**	Kalpini	100	Pending	
E27/714	Kalpini	100	Pending		**E28/3308**	Kalpini	100	Pending	
E27/715	Kalpini	100	Pending		**E28/3309**	Kalpini	100	Pending	
M25/377	Kalpini-Bulong	100	Pending	14					

WA Regional

Tenure	Location	Ardea Interest (%)	Status	Note
M15/1101	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1263	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1264	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1323	WA Regional	Pre-emp Ni-Co Lat	Live	7
M15/1338	WA Regional	Pre-emp Ni-Co Lat	Live	7
M27/510	WA Regional	100 Ni Lat Ore	Live	8
M27/272	Kanowna East	Non-Au Rights	Live	10

Yerilla Hub

Tenure	Location	Ardea Interest (%)	Status	Note
E39/1954	Yerilla-Aubils	100 non Au rights	Live	14
M39/1147	Yerilla-Aubils	100 non Au rights	Pending	14
E31/1092	Yerilla-Boyce Creek	100 non Au rights	Live	14
E31/1169	Yerilla-Boyce Creek	100 non Au rights	Live	14
E31/1208	Yerilla-Boyce Creek	100 non Au rights	Live	14
E31/1213	Yerilla-Boyce Creek	100 non Au rights	Live	14
E31/1355	Yerilla-Boyce Creek	100	Pending	
M31/483	Yerilla-Boyce Creek	100 non Au rights	Live	14
M31/493	Yerilla-Boyce Creek	100 non Au rights	Pending	14
M31/475	Yerilla-Jump Up Dam	100 non Au rights	Live	14
M31/477	Yerilla-Jump Up Dam	100 non Au rights	Live	14
M31/479	Yerilla-Jump Up Dam	100 non Au rights	Live	14

Kookynie Gold-
Perrinvale Nickel-Gold

Tenure	Location	Ardea Interest (%)	Status	Note
E40/350	Kookynie	0	Live	11
E40/357	Kookynie	0	Live	11

Tenure	Location	Ardea Interest (%)	Status	Note
E29/1006	Perrinvale	100 non Au rights	Live	14
E29/1078	Perrinvale	100 non Au rights	Live	14

Mt Zephyr Gold-Nickel

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E37/1271	Mt Zephyr	100	Live	12	**E39/1706**	Mt Zephyr	100	Live	12
E37/1272	Darlot East	100	Live	12	**E39/1854**	Mt Zephyr	100	Live	12
E37/1273	Darlot East	100	Live	12	**E39/1985**	Mt Zephyr	100	Live	12
E37/1274	Mt Zephyr	100	Live	12					

Bedonia Nickel-PGE-Gold

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E63/1828	Bedonia	100	Live		**E63/1857**	Bedonia	100	Live	
E63/1856	Bedonia	100	Live						

For personal use only

Notes:	
1.	Britannia Gold Ltd retains precious metal rights.
2.	Impress Ventures Ltd has a 10% equity free-carried interest to a decision to mine.
3.	Norton Gold Fields Limited retains certain Au claw-back rights and royalty receivable.
4.	Ora Banda Mining Ltd holds Au-Ag rights while Ardea retains all non Au-Ag rights.
5.	Acra JV – Northern Star Resources Ltd earn-in with Essential Metals Limited. Former holds gold rights while latter retains nickel sulphide rights. Ardea retains rights to Ni laterite ore.
6.	Black Mountain Gold Limited all rights with exception of Ardea retaining Ni rights.
7.	Ramelius Resources Limited assignee (Maximus Resources Ltd) all rights, Ardea pre-emptive right to Ni-Co laterite.
8.	Paddington Gold Pty Ltd all mineral rights (except nickel sulphide) while Ardea retains rights to nickel laterite ore.
9.	By Sale Agreement between Northern Star (Carosue Dam) Pty Ltd and Kalnorth Gold Mines Ltd, Northern Star (Carosue Dam) Pty Ltd now owns Au rights while Ardea retains non-Au rights.
10.	Northern Star (Kanowna) Limited holds Au rights. Ardea retains non-Au rights.
11.	The Option to purchase the tenements was transferred to Metalicity Limited on 21 November 2020. Ardea retains non Au rights.
12.	The Mt Zephyr/Darlot East tenements were farmed out to Red 5 Limited on 18 November 2020 whereby Red 5 Limited may earn 80% equity interest. Ardea is free carried to Decision to Mine.
13.	Purchase of tenements by Binding Terms Sheet and Alluvial Rights Agreements dated 4 June 2021 between the Seller Steven Lionel Kean and Ardea Resources Limited.
14.	By way of the Demerger Implementation Deed executed between Ardea Resources Limited, Kalgoorlie Gold Mining Limited, Yerilla Nickel Pty Ltd, Kalgoorlie Nickel Pty Ltd and Ardea Exploration Pty Ltd dated 9 September 2021, certain tenements are to be transferred to newly listed Kalgoorlie Gold Mining Limited. For certain other tenements, Ardea Resources Limited or its subsidiaries will continue to hold and retain non-gold rights while Kalgoorlie Gold Mining Limited retain gold rights only.

Interests in Mining Tenements and Petroleum Tenements Acquired or Increased during the June Quarter 2023

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)
L29/181	Siberia	Application	0	100
E29/1235	Goongarrie	Application	0	100
M25/377	Kalpini-Bulong	Application	0	100

For personal use only