Ardea Resources Limited

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ASX Symbol
ARL

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Issued Capital
Fully Paid Ordinary Shares
194,661,915

Performance Rights
6,690,000

Options
4,000,000

ABN 30 614 289 342

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QUARTERLY OPERATIONS REPORT

For the Quarter ended 30 September 2023

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

SEPTEMBER 2023 QUARTER HIGHLIGHTS

During the Quarter, the Company completed a strongly supported $16M Placement (before costs) and had $22.5M cash-at-bank, at the end of September 2023. The Company has no debt, a tight capital structure, and supportive share register seeking development of the Kalgoorlie Nickel Project (**KNP**).

Kalgoorlie Nickel Project

The KNP Goongarrie Hub is Ardea's focus with the Company building upon the successful 2023 Pre-Feasibility Study (**PFS**) results (ASX release 5 July 2023) reported in the June 2023 Quarterly Report (ASX release 27 July 2023).

Key September 2023 Quarter activities included:

- Confirming the reduction in autoclave residence time from 70 minutes to 60 minutes and the expected increase in autoclave throughput, so that the Definitive Feasibility Study (**DFS**) base case is expected to exceed the 3.5Mtpa PFS.
- Separating the DFS into six key work packages, being Process Plant and Process Plant Utilities, Non Process Infrastructure (**NPI**), Approvals, Geology, Mining and Hydrogeology.
- Further definition of the water supply sources and mine dewatering strategy as a contribution to supply.
- Analysis of the environmental approval's pathway schedule.
- Finalising the environmental baseline studies, notably spring season flora.
- Planning and preparation for the DFS, including the development of:
  - Project operations procedures;
  - Study and project execution schedules update;
  - Precedent legal documents; and
  - Scopes of Services.
- Refining DFS metallurgical testwork programs.
- Developing a detailed mine plan Scope of Work.
- Refining the Measured Resource seven year production profile, including infill drill hole spacing and metres to be drilled for the DFS.

Strategic Partner Process

Ardea continues to engage with the Japanese Consortium (ASX releases 5 July and 29 September 2023) to agree the DFS Scope of Work and budget with multiple meetings taking place during the Quarter in the City of Kalgoorlie-Boulder, Shire of Menzies, Perth and Tokyo. The aim is for Ardea and the Consortium to execute a binding agreement to facilitate the completion of the KNP Goongarrie Hub DFS, make a Final Investment Decision (**FID**) and jointly secure project development funding to develop the KNP Goongarrie Hub.

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Ardea Managing Director, Andrew Penkethman noted:

"The September Quarter has built upon the successful delivery of the 2023 PFS, with the Ardea team focused on finalising the DFS Scopes of Work and executing final Strategic Partner agreements which allow the DFS to be fully funded and completed to the highest standard.

Ardea looks forward to finalising the Strategic Partner process and continuing to advance the KNP Goongarrie Hub milestones to reach its full potential, as a major source of nickel-cobalt that plays a meaningful role in the global energy transition."

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 Western Australia (**WA**).

The Ardea team continue to work closely with Sumitomo Metal Mining Co., Ltd, Mitsubishi Corporation, and Mitsui & Co., Ltd, the Japanese Consortium (ASX announcements 5 July 2023 and 29 September 2023), to define a Scope of Work for the DFS and jointly complete this undertaking, with the Japanese Consortium funding the DFS upon the parties agreeing on the DFS scope.

Following the completion of the DFS, Ardea and the Japanese 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 Japanese 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 continue to be negotiated between Ardea and the Japanese Consortium.

Final Agreements, including binding terms for full funding of the DFS, are expected to be executed by the end of the March Quarter 2024.

To continue to advance the engagement between Ardea and the Japanese Consortium, multiple meetings continue to take place in the City of Kalgoorlie-Boulder, Shire of Menzies, Perth and Tokyo.

Ardea and the Japanese Consortium have agreed certain exclusivity arrangements to 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 their due diligence under the Strategic Partner process. This may continue until the Japanese Consortium completes its due diligence, with expected completion before the end of the December Quarter 2023 (unless extended by agreement between Ardea and the Japanese Consortium).

Multiple potential Partners that had been waiting for Ardea to complete the Goongarrie Hub PFS have continued their due diligence with the aim of securing a share of nickel-cobalt off-take from the KNP Goongarrie Hub.

Ardea continues to work with the preferred Partners to refine the Scope of Work for the DFS, so that the final DFS flowsheet and end-product specifications precisely meet the Partners' needs.

Nickel and Cobalt Sector Commentary

The fundamentals for unprecedented nickel demand continue to strengthen, driven mainly by growing Electric Vehicle (**EV**) and battery energy storage use, in addition to traditional uses such as stainless steel (Figure 1). This trend has been reiterated by many of the Lithium-ion Battery (**LIB**) and Original Equipment Manufacturer (**OEM**) companies that Ardea engages with, who all have a preference for high nickel content cathodes in batteries, due to the increased energy density and battery life. In the case of Lithium-ion Batteries for EVs, most groups either have in place or are moving towards having the nickel content of their cathodes equal to or greater than 90%.

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 Battery and Critical Minerals projects via the green energy movement continue to accelerate with the European Union Commission noting that the energy transition is set to triple by 2023 from $1 trillion last year. The US Inflation Reduction Act (**IRA**) is providing US$500 billion into new spending and tax concessions. This forecast spend will see a greatly increased demand for Battery and Critical Minerals.

Current producers of nickel will not meet demand forecasts and higher nickel prices will be required to enable new investments to come online, especially from jurisdictions like Western Australia, which can provide geopolitical and supply chain security, with production meeting the high ESG standards expected in the energy transition.

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 2).

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, such as scandium.

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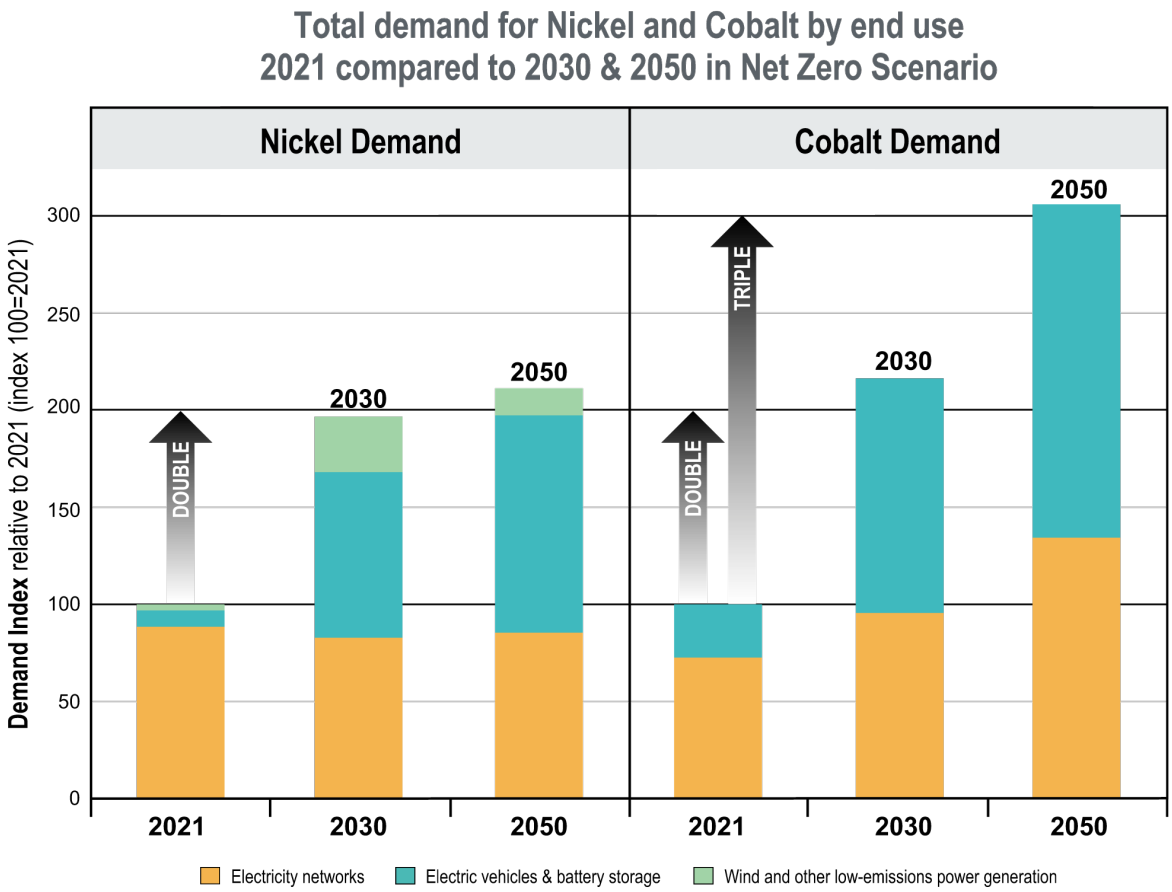

Figure 1: International Energy Agency (IEA), Total nickel and cobalt demand by scenario, 2020-2040, IEA, Paris After 11/07/2023, 09.01 IEA. Licence: CC by 4.0 www.iea.org/data-and-statistics/charts/total-demand-for-selected-minerals-by-end-use-in-the-net-zero-scenario-2021-2050.

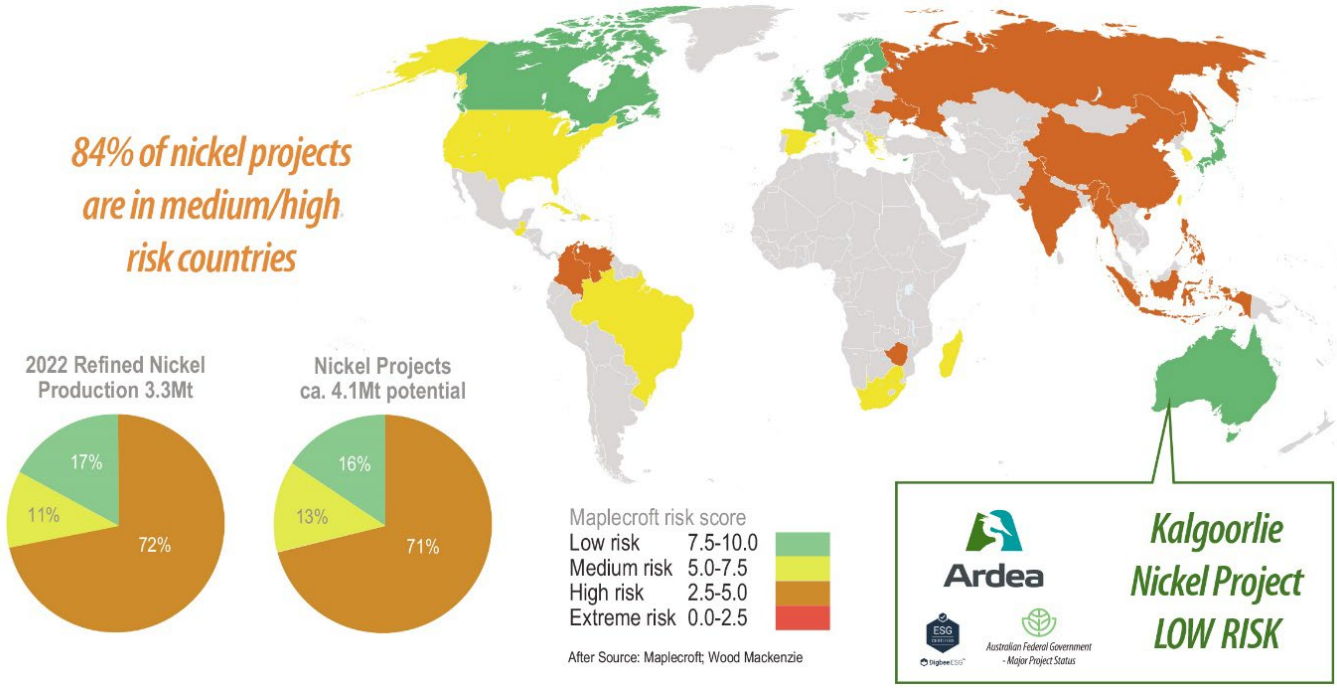

Figure 2: Overlaying the critical demand for nickel is the ethical and risk considerations. The map above shows that 84% of nickel projects are considered medium/high risk countries. Ardea's KNP project is in the enviable, premier, and low risk mining jurisdiction of Western Australia. After source WoodMac "LME Metals Forum, October 2022 - Nickel"

Health and Safety

There were nil incidents or Lost Time Injuries (**LTIs**) recorded during the Quarter. Safety topics included fatigue management controls, isolation lock-out training, Verification of Competency (VOC) matrix, reviewing the operations risk register and a toolbox on psychosocial hazards.

An Ardea representative attended the Mining Industry Summit 2023 – Driving Respect. Some of the focus areas of the conference discussed psychosocial hazards, gender violence, issues faced by contractors and subcontractors when on site and the company's responsibility to ensuring good psychosocial safety requirements.

Skills training evaluations continue to be developed to assess personnel competence in line with the Ardea competency matrix. 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 has been enhanced for CO_2 mitigation in the neutralisation circuit through introducing an Atmospheric Leach (**AL**) circuit to assist in neutralising the High Pressure Acid Leach (**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 through burning elemental sulphur, 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 (part of Ardea's FBICRC R&D, see following).

Ardea enjoys strong support from the communities in which it operates, primarily the City of Kalgoorlie-Boulder and the Shire of Menzies. 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

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topsoil and finally progressive revegetation, minimises land disturbance and accelerates rehabilitation, concurrent with operations (Figure 5).

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 stakeholders, who are uniformly 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 has awarded Ardea an overall ESG rating of “BBB” for both corporate and the Kalgoorlie Nickel Project (ASX release 24 November 2022). For an emergent development company such as Ardea, BBB is a meritorious outcome and an excellent platform to achieve AAA as the Company grows.

Ardea is currently working on aspects of its ESG rating that require improvement and has met with Digbee’s representative in Perth, WA to outline how Ardea's positive improvements can be incorporated into its annual ESG update, to be completed in the December Quarter of 2023.

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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 10km (Figure 3). All key Goongarrie Hub mineral resources are located on granted mining leases 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 and 4). 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.

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 Federal 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.

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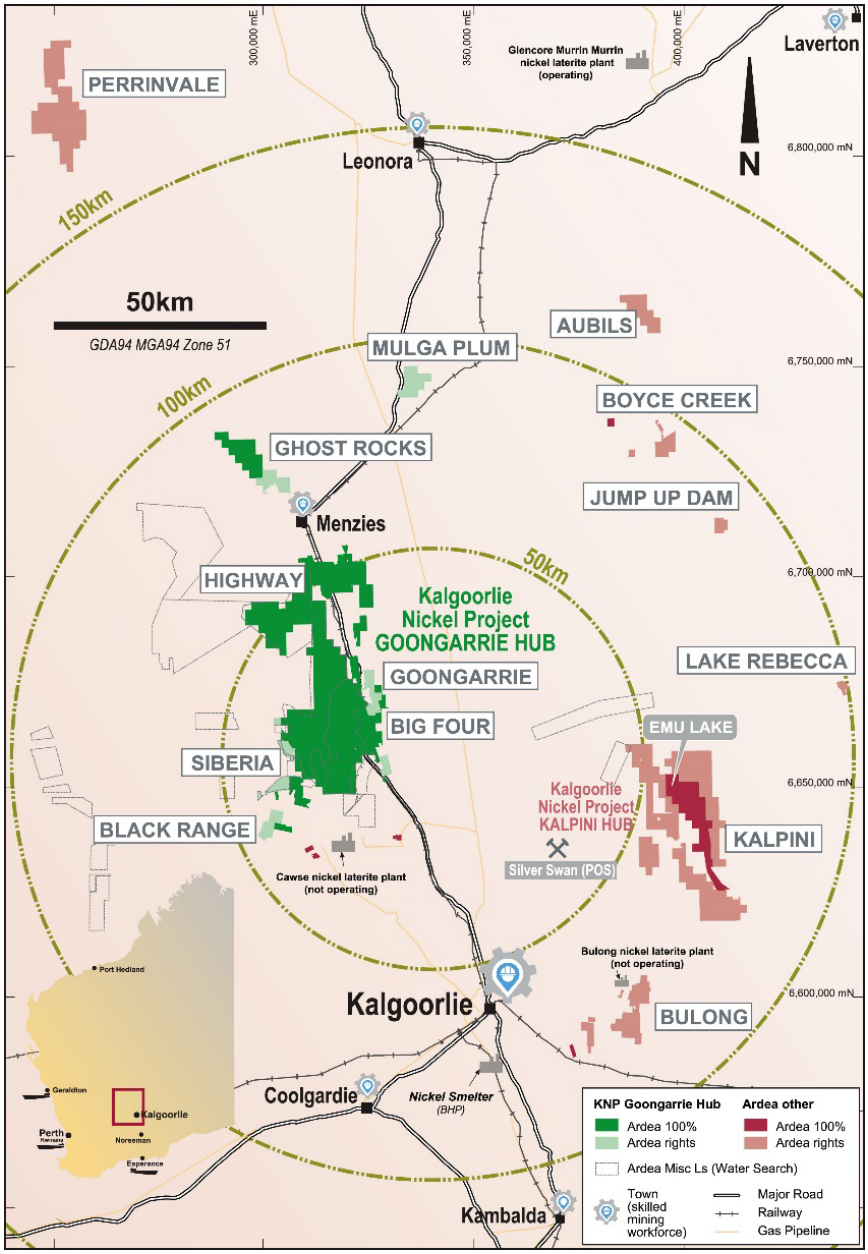

Figure 3: KNP location plan. Projection GDA94 Zone 51.

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. Ardea continues to engage with multiple financial institutions, including Export Credit Agencies within Australia and abroad, with these financial institutions expressing a high level of 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 has concluded the KNP Goongarrie Hub PFS, interest in this process is at an all-time high, as multiple companies express strong interest in securing a share of 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.

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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.

Feasibility Programs

Ardea's focus remains development of the KNP Goongarrie Hub.

Considerable progress continues to be made with key September 2023 Quarter DFS activities including:

- Further definition of the water sources;
- Additional studies into mine dewatering;
- Further analysis of the environmental approvals pathway, schedule;
- Continued progress on the environmental baseline studies;
- Planning and preparation for the DFS, including the development of:
  - Project Procedures
  - Study and project execution schedules updates
  - Precedent legal documents; and
  - Scopes of Services

The overall approach for the DFS was ratified during the Quarter and is based on the DFS being broken down into six key work packages, namely: Process Plant and Process Plant Utilities; NPI; Approvals; Geology; Mining and Hydrogeology.

These separate packages will then report into an overall package manager to consolidate the DFS into a single high quality DFS document.

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Resource Modelling

Resource workstreams during the September Quarter 2023 consisted of finalisation of documents associated with the PFS (Ardea ASX release 5 July 2023), and pre-DFS work.

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 previous 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 Mineralised Neutraliser (**MN**) as part of the Mineral Resource Estimate (**MRE**), to allow this material to be included in the PFS Ore Reserve.

Six deposits of the Goongarrie Hub were the subject of the PFS, comprising from south to north on the Goongarrie Line, the Scotia Dam, Big Four, Goongarrie South and Goongarrie Hill deposits, as well as the satellite deposits at Highway and Siberia North. These six deposits are collectively referred to as the PFS subset.

As part of the PFS, the Goongarrie Hub MRE was re-evaluated to consider the MN that is captured within optimised open pits, including that 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.

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.

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 and the Yerilla Hub 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).

Pre-DFS work has commenced including a revision of available data and planning for future Resource Estimation workflows. Resource block models for the six PFS subset deposits will be updated as part of the DFS, after infill drilling to bring areas scheduled to be mined within the first 7 years up to Measured Category, so that they are available for conversion to Proven Ore Reserve.

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).

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.

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	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***

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Table 3 - 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***			

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Ore Reserve

The 2023 PFS (ASX release 5 July 2023) defined an Ore Reserve 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 significantly 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.*

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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.

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 – Global Patent Application

As previously announced 16 November 2022, Ardea lodged patent applications in Australia (AU2022903389) and with the World Intellectual Property Office (**WIPO**) (PCT/AU2023/050520, release 16 June 2023) relating to the use of Mineralised Neutraliser in the Ardea process. Ardea continues to monitor the progress of the applications.

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 (using 500ppb Pt-Pd as a pathfinders in pulp re-assay),the REE neodymium, praseodymium and cerium, used in magnets for EV motors and wind-turbine generators and gallium used in electronics.

Highly sought Critical Minerals variously 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.

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 and drilled. The drill core has been submitted for assay and results awaited.

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Future Battery Industries – Cooperative Research Centre (FBICRC)

Ardea continues to support the FBICRC developments and have monitored progress over the Quarter. No specific requests for material or intellectual support were received during the period.

Bench-scale Metallurgy

Progress of the bench-scale testwork program has been constrained by the allocation of resources to other activities, notably scoping the DFS.

Feedback from potential Strategic Partners supports extensional testwork for the upcoming DFS. The testwork scope is to be revisited after a review of the process design criteria and identification of areas where the existing parameters require additional support.

Preliminary in-house testwork was conducted as opportunities arose. A service provider demonstration of their portable mineral analyser, which incorporates XRF, optical, magnetic and infrared and LIDAR scanning for samples and cores. This system is available as an analytical service or as a procurement package.

Testwork completed during the Quarter demonstrated that the solubility of magnesium in leach process liquor exceeded the design targets assigned by Wood Engineering during the PFS stage. The consequence of this is to reduce the reaction tank volumes required in the AL stage.

Metallurgical Bulk Samples

Bulk sample requirements for the Bench-Scale Metallurgy program are being evaluated. It is expected that samples will be typical of the run-of-mine ore production from the first seven years of operation.

Flowsheet Research and Development

A financial evaluation of the various acid neutralisation reagent options – limestone, lime sand and in-pit MN – overwhelmingly favoured the adoption of MN as the primary neutralising reagent. This was based on lower materials cost, lower logistical supply cost, and nickel and cobalt credits that accompany the MN option. Variation between the specific acid neutralising capacity (**ANC**) for the three options was factored into the calculations. A sensitivity analysis indicated that the MN remained as the preferred option over a wide range of input cost assumptions.

An initiative to improve the metal extraction efficiency from the AL circuit was identified in the previous Quarter. This involved retaining a fraction of the fresh saprolite feed and adding it downstream of the main leaching stage to act as a neutraliser and to promote the precipitation of ferric iron as jarosite from the leach liquor (the primary acid dosage was increased to accommodate the downstream acid requirement). Sighter tests were performed this Quarter.

The sighter tests for atmospheric leaching split circuit leaching demonstrated good potential for process.

A review of HPAL autoclave residence time requirement was conducted by superimposing a conventional goethite leaching curve onto typical residence time distributions for a well-mixed six-stage reactor.

The marginal improvement from increasing HPAL autoclave residence time from 60 minutes to 70 minutes was of the order of a 0.4% addition to nickel extraction and likely to be offset by the loss in capital efficiency resulting from the reduced production rates arising from the extended HPAL residence time. The study concluded that a residence time of 60 minutes would be a more practical criterion for future process design. Feedback from potential Strategic Partners is agreement in principle, conditional on delivery of additional supporting testwork data that will be undertaken as part of the DFS.

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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 outside the mine area, with water for project development to be sourced from dedicated bore fields.

During the Quarter, the planned hydrogeology scope was updated with consultants Rockwater, including a schedule of planned works. This includes a scope of work for an Aircore water exploration drill program on priority targets including large regional paleovalleys, to be drilled in the March Quarter 2024. Following this as part of the planned DFS, production bores will be drilled on selected priority targets, including test pumping and sampling. The results will be used to initiate a schedule of water sources to supply the first 15 years for the Goongarrie Hub: Raw Water Stream (1.6 GL/a at <70,000 mg/L); Process Water Stream (3.1 GL/a at <100,000 mg/L); and Camp/Construction Water Supply (0.3 GL/a at <40,000 mg/L).

Following this, a cost-benefit analysis of supply options will be undertaken and then engineering studies including borefield and piping design, comparing water treatment costs for different options. Dewatering studies are being done on the Goongarrie open pit locations.

A water dipping program to establish Standing Water Level (**SWL**) at the Goongarrie Hub commenced during the Quarter, with a focus on dipping drill holes at Goongarrie South, Highway, Goongarrie Hill, and Siberia North. Water samples are being collected every 10 metres down hole with each sample measured in the field for conductivity/Total Dissolved Solids (**TDS**) with confirmatory assay in an independent commercial laboratory. The objective of the program is to cross-check background TDS in the mine areas and quantify environmental matters. Analyses to date indicate a benign ground water regime.

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).

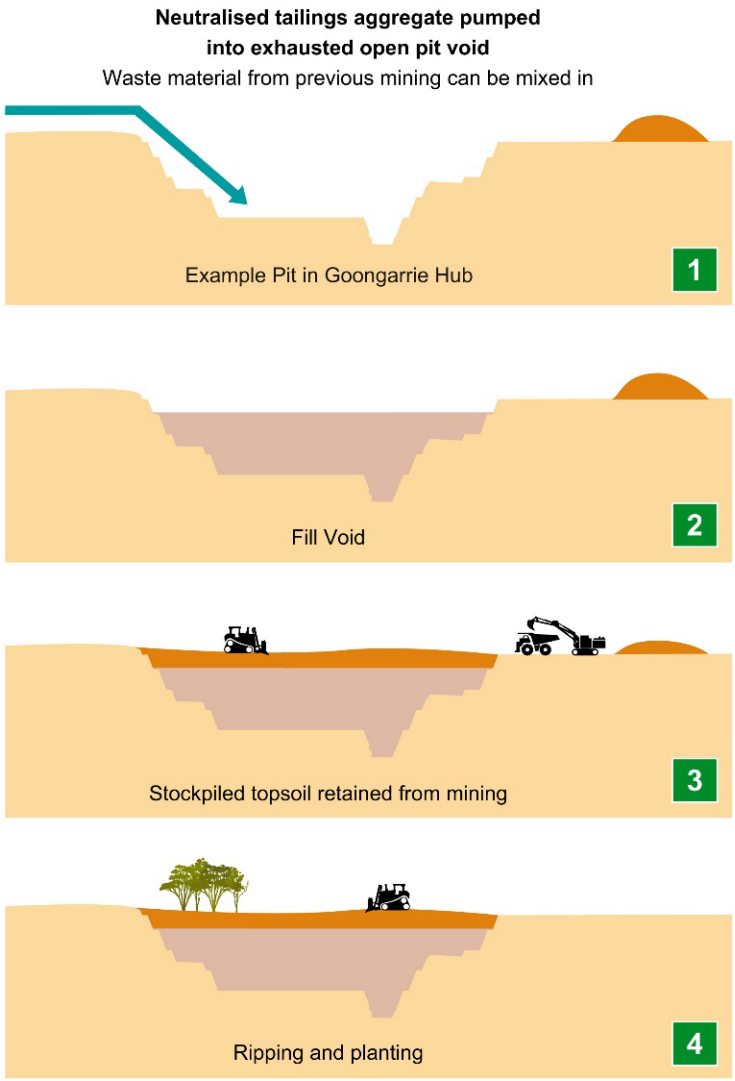
Due to the 2023 expanded development footprint of the Goongarrie Hub which also reflects Ardea's current flowsheet, baseline surveys completed in 2018 have been extended and include further surveys to incorporate the latest environmental standards and guidelines.

During the Quarter, Ardea has continued with its environmental baseline surveys ahead of expected Goongarrie Hub Environmental Protection Act (**EPA**) referral in 2024. Autumn flora and fauna surveys have been completed, including terrestrial fauna, short range endemic and subterranean fauna, as well as a Lake Ecology and Rewetting Trials Study of Lake Goongarrie, Lake Owen North and peripheral wetlands. Multiple targeted conservation, significant butterfly studies will be concluded in the next Quarter to a standard required by the Department of Biodiversity, Conservation and Attractions (**DBCA**). DBCA manages the ex-Goongarrie Pastoral Lease which partially underlies the Goongarrie Hub. Preparations are currently underway to commence Spring baseline surveys.

Completion of remaining baseline studies will allow further assessment of the need for the Project to be formally assessed by the EPA. If it can be shown that environmental impacts are low and or can be adequately managed by other regulatory agencies using other mechanisms, the EPA may make an assessment on the referral that the Project is not to be formally assessed.

Similarly, if the EPA believes impacts on some factors is not significant and can be adequately managed by other regulatory agencies using other mechanisms, the number of Key Factors to be assessed by the EPA under the Part IV process would be reduced.

Figure 5: 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 5) 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.

Rehabilitation of recent hydrogeological drill sites in the Goongarrie Hub continued during the Quarter at Siberia with backfilling of sumps and demarcation of selected steel collars for water bores with reflective barricading.

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2. 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 6).

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.

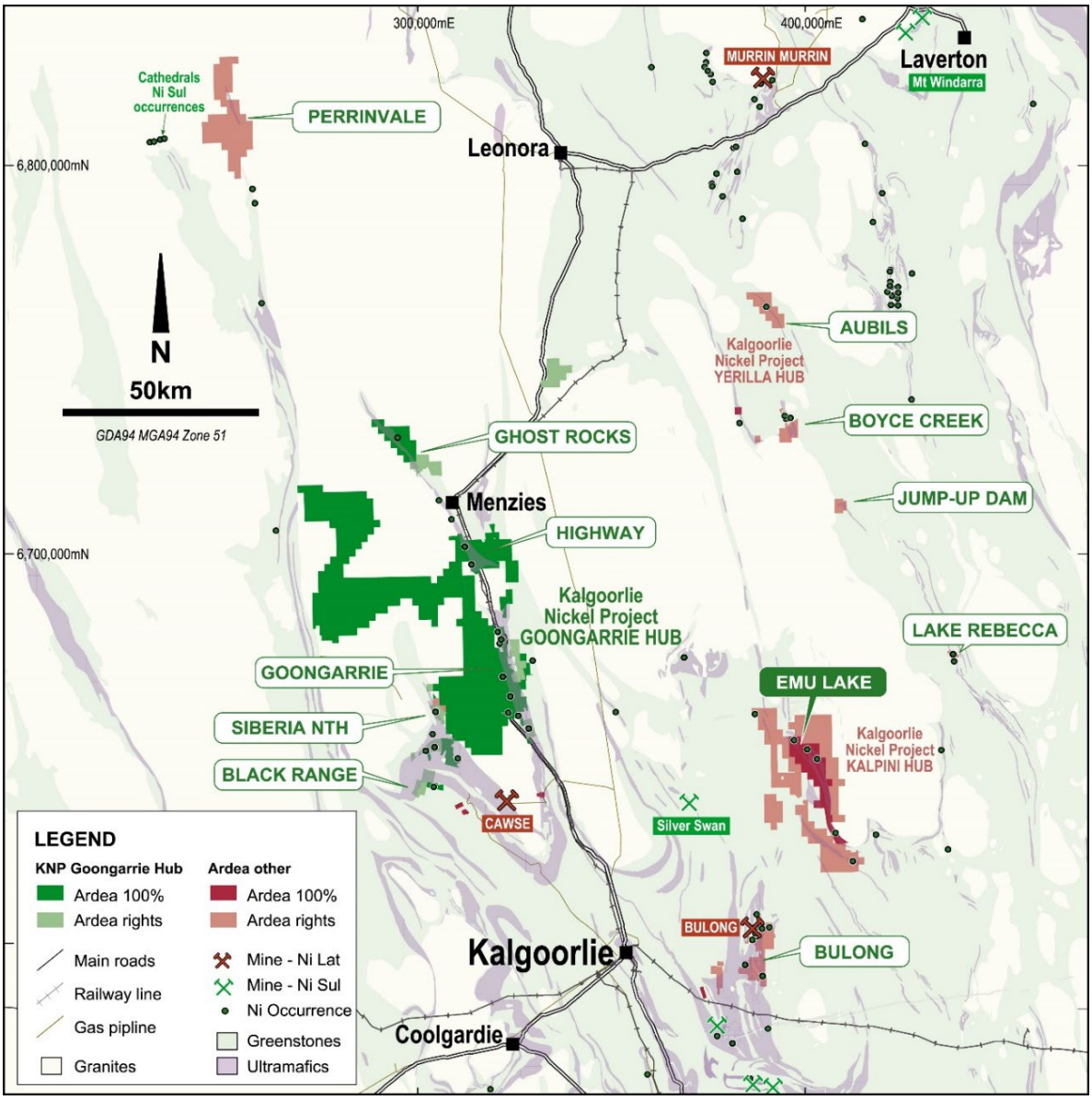

Figure 6: Ardea tenement plan highlighting the location of the Kalpini Project, Emu Lake Nickel Sulphide Camp and nickel mines and deposits in the region. Projection MGA 94 Zone 51.

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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 6, 7). The Type 1 massive nickel-copper-PGE sulphides discovered in 2022 by Ardea at the Binti Prospect 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 over 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 7):

- 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 previous 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 7). An RC drill program was designed with 52 RC holes for 11,200m. In addition, a diamond drill program comprising six holes for 3,210m was planned, with four holes in the Binti area. The plan for the Kalpini Hub is to postpone the exploration activities proposed above until the current Goongarrie Hub feasibility programs are completed. Low cost/low impact work such as field mapping and rock chip sampling of the fertile Western Ultramafic continues.

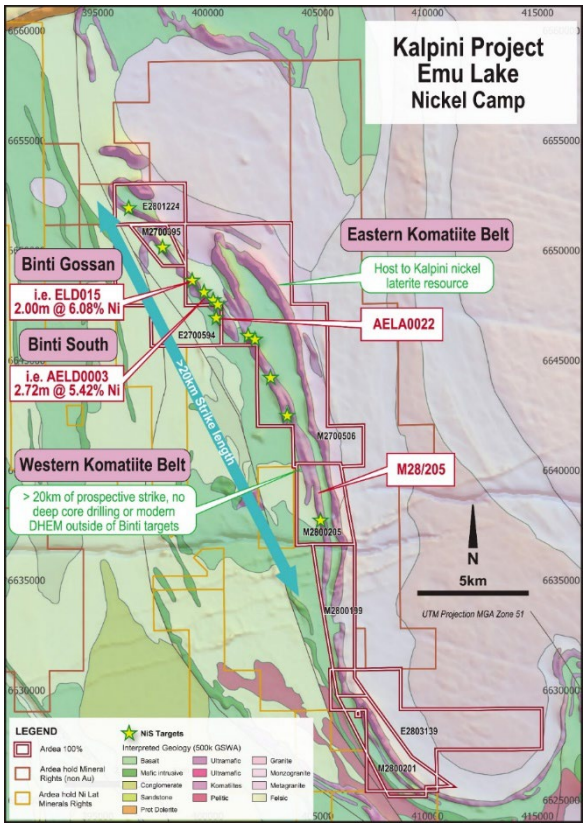

Figure 7: The Kalpini Project showing interpreted geology and Komatiite Belts. The historic nickel laterite resources are located on the Eastern Komatiite Belt, with the Western Belt highly prospective for nickel sulphide (NiS) mineralisation. Tenements are shown, with NiS targets (stars). Projection MGA 94 Zone 51.

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Lithium Exploration

During the Quarter lithium exploration was focused on testing Lithium-Caesium-Tantalum (LCT) pegmatite targets primarily at the Ghost Rocks Project, where 78 rock chip samples were taken and mapping completed testing for any LCT mineralisation in outcropping pegmatites. Initial assay results received for these samples are anomalous for Li, Cs and Ta (full reporting once all results to hand and QAQC confirmed). These samples occur in pegmatites close to the internal granite, in two clusters 900m apart on 100% Ardea owned tenement, E29/941 (Figure 8).

Figure 8: Pegmatite samples from Ghost Rocks.

Recently LCT data was compiled from the Ardea database (initially reviewing Li >500ppm assay data). A priority area identified was Highway with anomalous lithium identified in shallow felsic intrusions from previous drilling. Core for eight diamond holes and RC chips for three holes are being reviewed, with some samples to be sent for petrography.

At the Perrinvale Project assay results were received from a recent field sampling and mapping program in the northern portion of the tenement with 25 pegmatites sampled. No significant anomalism was identified from the returned assay results.

Other Projects

Highway

The Round 26 Exploration Incentive Scheme (**EIS**) diamond drill hole testing the nickel sulphide and hydrothermal alteration targets at Highway ($112,500 funded; *ASX Release 21 August 2023; Table 5, Figure 9*) was completed during the Quarter by contractor DDH1, drilling to a depth of 499.1m, with processing of the hole in-progress.

Table 5: Details for EIS #26 diamond drill hole (Highway NiS), with collar coordinates (MGA94-51)

Hole ID	East	North	RL	Ten ID	Dip	Azi	Depth (m)
AHID0024	313850	6698050	406	M29/214	-55	090	499.1

The drill hole tested the basal contact of the Walter Williams Formation (**WWF**) proximal to a 2009 MLEM surface anomaly where pentlandite and millerite was identified in petrographic work. AHID0024 drilled through thick Walter Williams Formation ultramafic from 132.25m – 499.1m (EOH), with multiple intrusive intermediate-felsic units also intersected. Structural measurements were taken of the intrusive contacts to identify orientations in 3D.

Nickel sulphide blebs were identified between 441.7m – 442.7m in the ultramafic. Though only minor nickel sulphides were observed (<1%), this is still evidence that the WWF achieved some sulphur saturation and is therefore evidence that the unit is prospective for hosting nickel sulphide (Figure 9). Petrography samples of the different lithologies and mineralisation have been despatched. A downhole electromagnetic (DHEM) survey was completed on AHIRD0024, with no bedrock conductors detected. No immediate follow-up at this target is recommended.

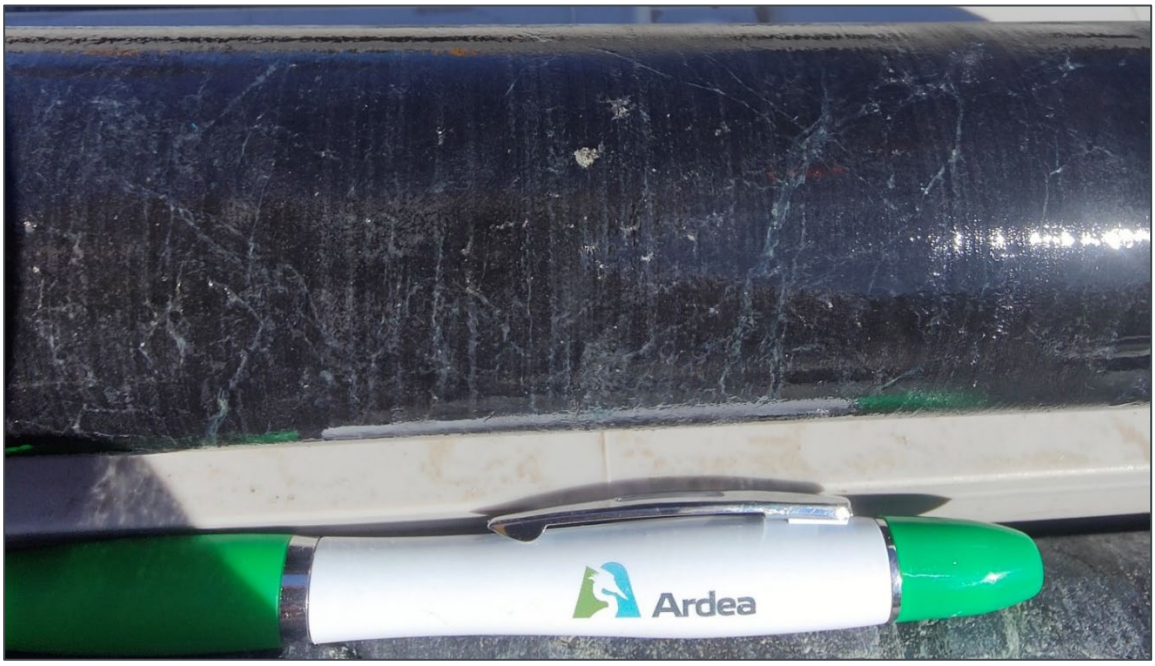

Figure 9: Minor blebby nickel sulphides in the Walter Williams Formation in drill hole AHID0024 at Highway.

Bulong

Ardea lodged five additional prospecting licence applications adjoining Bulong nickel laterite resources. Including the four prospecting licences applied for last Quarter, the nine new applications are P25/2764 - P25/2771 and P25/2773.

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. Costs Deadline (i.e. managing tenement costs) were transferred to the purchaser on 1 September 2023. The sale of the tenements will be finalised upon the purchaser completing a successful capital raising and IPO listing on the ASX.

3. CORPORATE

Strategy

Ardea's priority is KNP nickel-cobalt laterite project development, commencing with the Goongarrie Hub, to produce Battery and Critical 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 at Ghost Rocks.

Once the Goongarrie Hub Strategic Partner has been selected and the DFS is underway, Ardea can consider Strategic Partner options for other projects, such as the Kalpini and Yerilla Hubs.

Finance

The Company's cash position was $22.5M at Quarter end with no debt. All current programs are well funded following a successful $16M Placement (before costs) to professional and sophisticated investor clients of Petra Capital Pty Limited. Funds raised are to be primarily used for early DFS works, Critical Mineral exploration including nickel sulphide, finalisation of Strategic Partner Agreements and working capital (ASX release 30 August 2023).

Issued capital at 30 September 2023 was 194,661,915 Shares, with 6,690,000 Performance Rights and 4,000,000 Options.

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Summary of Expenditures for the Quarter

During the Quarter, the Company incurred a total net expenditure from operating activities of $2.9M. This was made up of $2.1M expended on exploration and evaluation activities, primarily feasibility studies, $410k on staff costs and $564k on administrative and corporate costs, with the balance on minor items. Funds received during the Quarter included the $16M Placement (before costs), interest of $101k and tenement rents refund of $1k.

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 Federal and State stakeholders and attended several industry events, including:

- The Diggers and Dealers Mining Forum from 7 to 9 August 2023, where Ardea had a booth and presentation spot.
- The Company hosted KNP Goongarrie Hub site visits around the Diggers and Dealers Mining Forum on 9 and 10 August 2023 that were attended by Ardea Shareholders, ABC and Australian Associated Press journalists, Geoscience Australia, bankers, brokers, investors, peer companies, resource analysts, and service providers.
- Several Association of Mining and Exploration Companies (**AMEC**) events, including a round table meeting with the Hon. Roger Cook MLA BA LLB MLA, Premier; Minister for State and Industry Development, Jobs and Trade; Public Sector Management; Federal-State Relations.
- An executive boardroom lunch with special guest, the Hon. Madeleine King MP – Minister for Resources and Northern Australia.

4. LOOKING FORWARD

During the December 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, State and Local Governments to ensure project development is predicated on the highest industry standards, notably ESG.

KNP DFS

- Continue supporting the Japanese Consortium (refer ASX releases 5 July and 29 September 2023) with their due diligence of the July 2023 PFS.
- Finalise Scopes of Services for the DFS.
- Engagement of a Specialist Project Management consultancy to support Ardea with engaging the market to seek proposals for the DFS packages and consolidating the DFS Workplan.
- Go out to the service provision market for proposals for the DFS packages.

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Strategic Partner Process

- Continue working with the Japanese Consortium to conclude their technical, legal and financial due diligence, complete the DFS Scope of Work and budget and advance the drafting of binding documents.
- Continue proactive engagement with groups who have previously executed confidentiality agreements prior to the Japanese Consortium engagement.

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

Mineral Resource Updates

- Finalisation of infill drill program to bring areas scheduled to be mined within the first 7 years up to Measured Category.
- Continuation of pre-DFS work including planning and data compilation for future Resource Estimation.
- The Siberia North and Lake Rebecca resource model updates are currently on hold until Resource workflows are completed, and additional drill data (Siberia North) and pulp re-assay (Lake Rebecca) are available.

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

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 comprised of six holes for 3,210m, mostly in the Binti area where interpreted mineralised lava channels are still open at depth. The plan for the Kalpini Hub is to postpone the proposed exploration activities until the current Goongarrie Hub feasibility programs are completed. Low cost/low impact work such as field mapping and rock chip sampling of the fertile Western Ultramafic continues.

Lithium

Based on the positive results from recent field sampling/mapping at Ghost Rocks, further programs will be planned including ongoing geological interpretation of the extensive pegmatite swarms. At the Highway project core for eight diamond holes and RC chips for three holes will be reviewed, with samples to be sent for petrography. Follow-up lithium exploration activities are largely dependent on staff availability during the current high-priority Goongarrie Hub feasibility programs.

Cost effective Battery and Critical Mineral target generation and exploration will continue to be undertaken over Ardea's strategic KNP tenure.

Investor Relations

During the December 2023 Quarter, Ardea has a booth and presentation slot at the Australian Nickel Conference and South-West Connect ASX Showcase.

Regular engagement with Shareholders and investors will continue in person and through Ardea's website, LinkedIn, and Twitter (X) accounts.

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

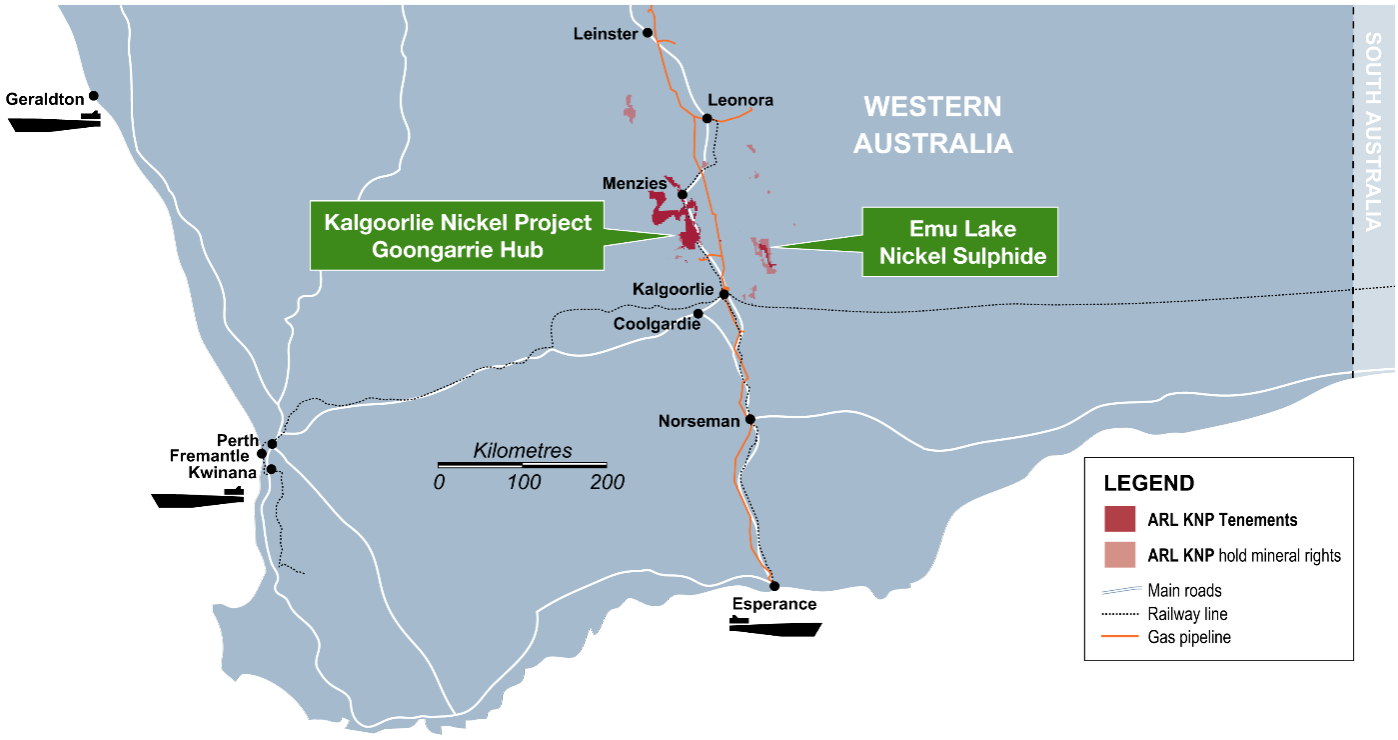
For further information regarding Ardea, please visit the Company website or contact:

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.



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Ardea

Australian Federal Government - Major Project Status

KNP KALGOORLIE NICKEL PROJECT
Battery Minerals to the World

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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. *Emu Lake Nickel Sulphide Discovery confirmed with 2.72m at 5.42% Ni, 14 January 2022.*
2. *Kalgoorlie Nickel Project Recognition on All Tiers of Australian Government, 21 March 2022.*
3. *Kalgoorlie Nickel Project: Metallurgical Update – Mineralised Neutraliser, 16 November 2022.*
4. *Ardea Completes KNP ESG Accreditation from Independent Leading Global Platform, 24 November 2022.*
5. *Notification of Issue, Conversion or Payment up of Unquoted Equity Securities, 24 April 2023.*
6. *Nickel sulphide anomalism from aircore drilling at Kalpini Project, 2 May 2023.*
7. *Mineralised Neutraliser Global Patent Lodged, 15 June 2023.*
8. *Kalgoorlie Nickel Project Mineral Resource Estimate Exceeds 6 Million Tonne Contained Nickel, 30 June 2023.*
9. *KNP Goongarrie Hub Ore Reserve and Feasibility Study Defines +40 Year Operation with Strong Financial Metrics, 5 July 2023.*
10. *Ardea Kalgoorlie Nickel Project – MOU with Sumitomo Metal Mining, Mitsubishi Corporation, and Mitsu & Co., Ltd, 5 July 2023.*
11. *Annual Report 2023, 27 September 2023.*
12. *Appendix 4G and Corporate Governance Statement 2023, 28 September 2023.*
13. *Ardea and Japanese Consortium Update on MOU, 29 September 2023.*

Competent Persons Statement

Resource Estimation, Exploration Results, and Industry Benchmarking

The Resource Estimation 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 information in this report that relates to planning and results for nickel sulphide and lithium exploration is based on information reviewed or compiled by Matthew McCarthy, who is a Member of the Australian Institute of Geoscientists. Mr McCarthy is a full-time employee of Ardea Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr McCarthy consents to the inclusion in this report of the information in the form and context in which it appears.

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.

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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 Sept 2023

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
1.	**Cash flows from operating activities**		
1.1	Receipts from customers	1	1
1.2	Payments for		
	(a) exploration & evaluation	(906)	(906)
	(b) Feasibility Studies	(1,210)	(1,210)
	(c) production	-	-
	(d) staff costs	(410)	(410)
	(e) administration and corporate costs	(564)	(564)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	101	101
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid/received	(10)	(10)
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material) –	-	-
		-	-
1.9	**Net cash from / (used in) operating activities**	**(2,998)**	**(2,998)**
2.	**Cash flows from investing activities**		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	-	-
	(e) investments	-	-
	(f) other non-current assets	-	-

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Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 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**	**-**	**-**

3.	**Cash flows from financing activities**		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	15,848	15,848
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	(960)	(960)
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**	**14,888**	**14,888**

4.	**Net increase / (decrease) in cash and cash equivalents for the period**	11,890	11,890
4.1	Cash and cash equivalents at beginning of period	10,648	10,648
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,998)	(2,998)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	14,888	14,888

Consolidated statement of cash flows		Current quarter $A'000	Year to date (3 months) $A'000
4.5	Effect of movement in exchange rates on cash held	-	
4.6	**Cash and cash equivalents at end of period**	**22,538**	**22,538**

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	16,825	2,465
5.2	Call deposits	5,713	8,183
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)**	**22,538**	**10,648**

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

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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)	(2,998)
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)	(2,998)
8.4	Cash and cash equivalents at quarter end (item 4.6)	22,538
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	22,538
8.7	**Estimated quarters of funding available (item 8.6 divided by item 8.3)**	7.52

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: 30 October 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.

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Ardea Resources Limited Tenement Schedule (WA) as at 30 September 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	Granted		**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	
G29/25	Goongarrie	100	Pending		**M29/424**	Goongarrie	100	Live	
L24/239	Goongarrie	100	Live		**M29/426**	Goongarrie	100	Live	
L29/134	Goongarrie	100	Live		**P24/5260**	Goongarrie	100	Live	
L29/135	Goongarrie	100	Live		**P24/5328**	Goongarrie	100	Live	
L30/67	Goongarrie	100	Live		**P24/5329**	Goongarrie	100	Live	
L30/68	Goongarrie	100	Live		**P24/5265**	Goongarrie-Carr Boyd	100	Live	
L16/141	Goongarrie	100	Live		**P24/5169**	Goongarrie-Windanya	100	Live	
L30/85	Goongarrie	100	Live		**P24/5480**	Goongarrie-Windanya	100	Live	
P29/2646	Highway North	100	Live		**M24/919**	Goongarrie-Scotia	100 Ni rights	Live	6
P29/2647	Highway North	100	Live		**M24/959**	Goongarrie-Scotia	100 Ni rights	Live	6
P29/2648	Highway North	100	Live		**M24/541**	Goongarrie	100	Live	
P29/2649	Highway North	100	Live		**P29/2650**	Highway North	100	Live	
P24/5528	Goongarrie	100	Live		**P29/2651**	Highway North	100	Live	
P29/2559	Highway North	100	Live		**E29/1082**	Goongarrie	100	Live	
P29/2560	Highway North	100	Live		**E29/1089**	Goongarrie	100	Live	
P29/2501	Highway - Moriarty	100	Live		**P29/2561**	Highway North	100	Live	
P29/2511	Ghost Rocks	100	Live		**P29/2562**	Highway North	100	Live	
P29/2512	Ghost Rocks	100	Live		**E29/941**	Ghost Rocks	100	Live	
P29/2513	Ghost Rocks	100	Live		**E29/981**	Ghost Rocks	100	Live	
P29/2514	Ghost Rocks	100	Live		**M29/214**	Highway	100	Live	
P29/2515	Ghost Rocks	100	Live		**P29/2538**	Ghost Rocks	100	Live	
L16/143	Goongarrie – Credo West	100	Live		**P29/2539**	Ghost Rocks	100	Live	
L16/144	Goongarrie – Credo West	100	Live		**E29/1083**	Goongarrie	100	Live	
L16/145	Goongarrie – Credo West	100	Live		**L16/147**	Goongarrie – Credo West	100	Live	
L16/146	Goongarrie – Credo West	100	Live		**L16/148**	Goongarrie – Credo West	100	Live	
L24/252	Goongarrie	100	Pending		**L30/95**	Goongarrie – Credo West	100	Live	
E29/1235	Goongarrie	100	Pending		**E29/984**	Highway North	100	Live	15
P29/2530	Goongarrie	100	Live	15	**M29/445**	Highway North	100	Pending	15
P29/2532	Goongarrie	100	Live	15	**E29/1062**	Goongarrie	100	Live	15
P29/2467	Goongarrie	100	Live	15	**L24/253**	Goongarrie	100	Live	
P29/2468	Goongarrie	100	Live	15	**L24/254**	Goongarrie	100	Live	
P29/2380	Goongarrie	100	Live	15	**L24/255**	Goongarrie	100	Live	

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	Live		**P24/5623**	Siberia South	100	Live	
P24/5619	Siberia South	100	Live		**P24/5624**	Siberia South	100	Live	
P24/5620	Siberia South	100	Live		**P24/5625**	Siberia South	100	Live	
P24/5621	Siberia South	100	Live		**L29/181**	Siberia	100	Pending	
P24/5622	Siberia South	100	Live		**L29/183**	Siberia	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	Live	14
P24/5594	Black Range	100% non Au rights	Live	14
P24/5595	Black Range	100% non Au rights	Live	14
P24/5596	Black Range	100% non Au rights	Live	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	Live	
E27/606	Kalpini	100	Live		**P25/2455**	Kalpini-Bulong	100	Live	
E27/607	Kalpini	100	Live		**P25/2456**	Kalpini-Bulong	100	Live	
E28/1224	Kalpini	100	Live		**P25/2457**	Kalpini-Bulong	100	Live	
E28/2978	Kalpini	100	Live		**P25/2458**	Kalpini-Bulong	100	Live	
M27/395	Kalpini	100	Live		**P25/2459**	Kalpini-Bulong	100	Live	
M27/506	Kalpini	100	Live		**P25/2460**	Kalpini-Bulong	100	Live	
M27/512	Kalpini	100	Pending		**P25/2461**	Kalpini-Bulong	100	Live	
M28/199	Kalpini	100	Live		**P25/2482**	Kalpini-Bulong	100	Live	
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	Live	
E28/1746	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2613**	Kalpini-Bulong	100	Live	
E28/2483	Kalpini-Acra	100 Ni Lat Ore	Live	5	**P25/2614**	Kalpini-Bulong	100	Live	

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Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E25/578	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2615**	Kalpini-Bulong	100	Live	
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	Live		**P25/2305**	Kalpini-Bulong	100 non Au rights	Live	13, 14
M25/145	Kalpini-Bulong	100	Live		**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	Live		**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	Live		**E27/647**	Kalpini	100	Live	
M25/209	Kalpini-Bulong	100	Live		**E27/643**	Kalpini	100	Pending	
E27/646	Kalpini	100	Live		**P25/2306**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2295	Kalpini-Bulong	100 non Au rights	Live	14	**M25/19**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2296	Kalpini-Bulong	100 non Au rights	Live	13, 14	**P25/2307**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2297	Kalpini-Bulong	100 non Au rights	Live	13	**P25/2308**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2304	Kalpini-Bulong	100 non Au rights	Live	13, 14	**P25/2408**	Kalpini-Bulong	100 non Au rights	Live	13, 14
E27/692	Kalpini-Bulong	100 non Au rights	Live	14	**P25/2409**	Kalpini-Bulong	100 non Au rights	Live	13, 14
P25/2743	Bulong	100	Pending		**L27/102**	Kalpini	100	Live	
E27/714	Kalpini	100	Pending		**L31/88**	Kalpini	100	Granted	
E27/715	Kalpini	100	Pending		**E28/3308**	Kalpini	100	Pending	
M25/377	Kalpini-Bulong	100 non Au rights	Pending	14	**E28/3309**	Kalpini	100	Pending	
P25/2768	Kalpini-Bulong	100	Pending		**P25/2770**	Kalpini-Bulong	100		
P25/2769	Kalpini-Bulong	100	Pending		**P25/2771**	Kalpini-Bulong	100		
					P25/2773	Kalpini-Bulong	100		

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	
M39/1147	Yerilla-Aubils	100 non Au rights	Pending	14
E31/1092	Yerilla-Boyce Creek	100 non Au rights	Live	
E31/1169	Yerilla-Boyce Creek	100 non Au rights	Live	
E31/1208	Yerilla-Boyce Creek	100 non Au rights	Live	
E31/1213	Yerilla-Boyce Creek	100 non Au rights	Live	
E31/1355	Yerilla-Boyce Creek	100	Pending	
M31/483	Yerilla-Boyce Creek	100 non Au rights	Live	
M31/493	Yerilla-Boyce Creek	100 non Au rights	Pending	
M31/475	Yerilla-Jump Up Dam	100 non Au rights	Live	
M31/477	Yerilla-Jump Up Dam	100 non Au rights	Live	
M31/479	Yerilla-Jump Up Dam	100 non Au rights	Live	

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	40	Live	12	**E39/1706**	Mt Zephyr	40	Live	12
E37/1272	Darlot East	40	Live	12	**E39/1854**	Mt Zephyr	40	Live	12
E37/1273	Darlot East	40	Live	12	**E39/1985**	Mt Zephyr	40	Live	12
E37/1274	Mt Zephyr	40	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						

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.
15.	Tenement Swap Agreement between Brightstar Resources Limited subsidiaries, Goongarrie Operational and Mining Pty Ltd and Menzies Operational and Mining Pty Ltd, and Ardea Resources Limited subsidiary, Kalgoorlie Nickel Pty Ltd dated 15 July 2023.

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

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (	Ardea Interest end Quarter (%)
P25/2768	Kalpini-Bulong	Application	0	100
P25/2769	Kalpini-Bulong	Application	0	100
P25/2770	Kalpini-Bulong	Application	0	100
P25/2771	Kalpini-Bulong	Application	0	100
P25/2773	Kalpini-Bulong	Application	0	100
L29/183	Siberia	Application	0	100
M29/445	Highway North	Application	0	100
P29/2530	Goongarrie	Granted	0	100
P29/2532	Goongarrie	Granted	0	100
E29/984	Highway North	Granted	0	100
E29/1062	Goongarrie	Infrastructure Rights	0	100
P29/2467	Goongarrie	Non Gold Rights	0	100
P29/2468	Goongarrie	Non Gold Rights	0	100
P29/2380	Goongarrie	Non Gold Rights	0	100

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