

**ASX & Media Release**

28 January 2022

**ASX Symbol**

ARL

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**Executive Management**

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Company Secretary

Alex Mukherji  
Manager Land Access &  
Compliance

Mike Miller  
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Services

**Issued Capital**

Fully Paid Ordinary Shares  
138,830,219

Performance Rights  
4,771,000

Options  
4,000,000

ABN 30 614 289 342

# QUARTERLY OPERATIONS REPORT

For the Quarter ended 31 December 2021

## CORPORATE

Ardea Resources Limited (**Ardea** or the **Company**) continues to advance its flagship battery minerals project, the Kalgoorlie Nickel Project (**KNP**), towards development through systematic advancement of feasibility programs working with all stakeholders and industry leading partners.

Ardea remains debt free, with a tight capital structure. The Company had \$6.2M cash-at-bank at the end of the December 2021 Quarter.

The **Kalgoorlie Gold Mining Limited (KalGold, ASX:KAL)** spin-out was completed in November 2021 and was the final rationalisation of Ardea's asset portfolio. This allows the Company to be solely focussed on advancing the KNP laterite resource and potential sulphide resource to nickel production.

## DEVELOPMENT

### Kalgoorlie Nickel Project

- **Strategic Partner** feedback has accelerated significantly over the last Quarter with overwhelming support for the increased scale of the Goongarrie Hub (**Goongarrie**), now designed at 3.5Mtpa<sup>1</sup>. There has also been increasingly strong demand for the Mixed Hydroxide Precipitate (**MHP**) production, with MHP the preferred downstream product for the lithium-ion battery sector. Ardea can design a flexible flowsheet depending on strategic partner preference including producing nickel sulphate and Precursor Cathode Active Material (**PCAM**).
- **KNP Feasibility Study work streams on the Goongarrie Hub:**
  - Gap Analysis Study (**GAS**) with international engineering consultant Wood completed, validating the increased project scale and nickel-cobalt production feeding into the Definitive Feasibility Study (**DFS**).
  - Hydrometallurgical test-work underway to attain maximum resource utilisation and optimisation of the low-carbon flow sheet.
  - Goongarrie water abstraction licence application lodged.

## EXPLORATION

### WA Nickel Sulphide and Critical Minerals

Exploration for nickel-copper-PGE sulphide and Critical Minerals continues on compelling targets which are complementary to the development of the KNP.

- **Nickel Sulphide** – High grade discovery confirmed at **Emu Lake** in the Western Ultramafic channel komatiite by diamond drill hole AELD0003<sup>2</sup>:
  - **2.72m @ 5.42% Ni**, 0.85% Cu, 0.58g/t Pt, 0.27g/t Pd from 391.04m downhole, including **1.23m at 8.22% Ni** and 0.56% Cu from 391.04m.
  - Discovery confirmed on an intact felsic footwall demonstrating thermal erosion textures analogous with the Silver Swan nickel deposit 35km west.
  - New search space defined, with the Western Ultramafic open in every direction, follow up DHEM and core holes designed over a 1km strike.

<sup>1</sup>ASX release 15 November 2021

<sup>2</sup>ASX release 3 December 2021 and 14 January 2022.

## December 2021 Quarter

### *Environmental, Social and (Corporate) Governance*

Ardea operates with Environmental, Social and (Corporate) Governance (**ESG**) considerations at the forefront of the way in which the Company does business and assesses societal impact. All project designs and work practices are predicated on ensuring the Company minimises CO<sub>2</sub> and other green-house gas emissions when in production. The proposed flowsheet (Figure 4) has been modified for CO<sub>2</sub> mitigation in the neutralisation circuit through introducing an Atmospheric Leach (**AL**) circuit.

In recent years, Ardea has contributed technical analyses to groups advocating for net zero by 2050 and lodged a supportive submission to the House of Representatives Standing Committee on the Environment and Energy inquiry into the Climate Change (National Framework for Adaptation and Mitigation) Bill 2020. The KNP was also included in the Commonwealth Government's 2021 *Australian Critical Minerals Prospectus*.

Responsible sourcing of materials, through mechanisms such as mandatory reporting of CO<sub>2</sub> 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. These important considerations are an essential part of the feasibility study work Ardea is undertaking on the KNP.

Ardea enjoys strong support from the communities in which we operate, primarily the City of Kalgoorlie-Boulder and the Shire of Menzies, and has a Native Title Agreement in place for development of the Goongarrie Hub.

Ardea has implemented an Education Trust to help provide educational opportunities for Indigenous students in the operations' communities and also supports a number of Eastern Goldfields community causes.

The Ardea Team are the Company's most important asset and comprise over 31% female participation, all in key management roles. The Company is a strong advocate for gender equality and fair representation for all community groups. All personnel and their families are offered complimentary support by a 'wellbeing' service provider.

During the Quarter, a Cultural Awareness Training session was run for staff and management by well-respected Goldfields Aboriginal Elder, Mr Aubrey Lynch, at Ardea's West Kalgoorlie Operations office (Figure 1).



Figure 1: Cultural Awareness Training session at the Ardea West Kalgoorlie Office, run by well-respected Aboriginal Elder, Mr Aubrey Lynch.

### *Nickel Sector Commentary*

Demand for nickel continues to grow at record rates and is being driven by the Lithium-Ion Battery (**LIB**) supply chain for the burgeoning Electric Vehicle (**EV**) sector where nickel is an essential component of high performance NCM (nickel-cobalt-manganese) and variation (eg NCA and NMCA) chemistry batteries, as well as traditional uses such as stainless steel (Figure 2). During the Quarter the nickel price reached a seven-year high and was consistently selling at levels around US\$20,000 per tonne.

The appreciating nickel price trend has continued into January 2022 with levels reaching over US\$24,000 per tonne. Current world geopolitical tensions in Eastern Europe are likely to further exacerbate supply constraints.

Current world battery grade nickel production levels simply cannot keep pace with demand, even if every currently identified nickel laterite and sulphide deposit that can deliver sustainable and ethical mineral supply enters production. Without the development of significant nickel resources like the KNP, the EV revolution will be impeded and COP26 Glasgow climate commitments will be delayed.

With Ardea's KNP hosting one of the largest nickel-cobalt resources in the developed world, **830Mt at 0.71% Ni and 0.046% Co (5.9Mt contained nickel metal, 380kt contained cobalt metal** – ASX release 16 June 2021), Ardea is in the prime position to provide essential supplies of sustainably sourced nickel and cobalt, along with other Critical Minerals (notably scandium and the rare earth elements (**REEs**) neodymium and praseodymium).

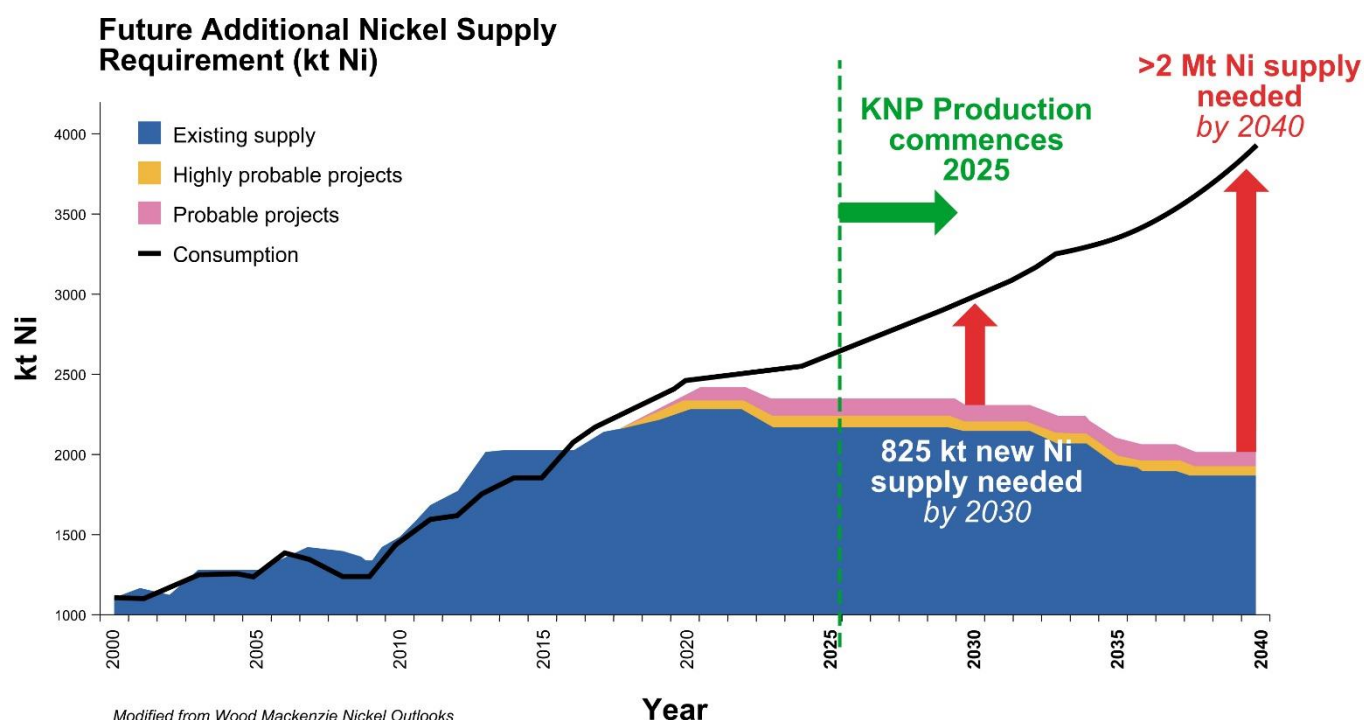


Figure 2: Existing and forecast nickel supply and consumption highlighting the critical need for new nickel supply from 2022 onwards. \*KNP production subject to completing a Definitive Feasibility Study, making a final investment decision, funding and developing the Goongarrie Hub.

## 1. KALGOORLIE NICKEL PROJECT - GOONGARRIE HUB

The Goongarrie Hub is located 70km northwest of the mining city of Kalgoorlie-Boulder and is Ardea's most advanced project, within the broader KNP (Figure 3). Resources from the Goongarrie and Highway deposits are planned to be the base load feed for two High Pressure Acid Leach (HPAL) autoclaves and one AL plant located at Goongarrie. The resources at Goongarrie are dominantly the premium goethite style and extend continuously over 25km of strike and at Highway, 30km north, over a strike length of 6km (Figure 3). All Goongarrie Hub resources are located on granted mining leases with Native Title Agreement in place and tenure 100%-controlled by Ardea.

The project also has mobile coverage and ready access to high-quality infrastructure with the Goldfields Highway, rail line and power infrastructure passing through the project area (Figure 4). There are two port options, these being Kwinana and Esperance, that are also 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. Ardea is engaged with State and Commonwealth statutory authorities who are coordinating the push for a downstream battery industry within the State of Western Australia where all the feedstocks, including nickel and cobalt, are available at the critical scales required.



Importantly, as evident in all KNP Strategic Partner discussions, ethical and sustainable materials supply as available in WA, is absolutely essential and non-negotiable to the EV sector. This has driven the KNP flow-sheet refinements.

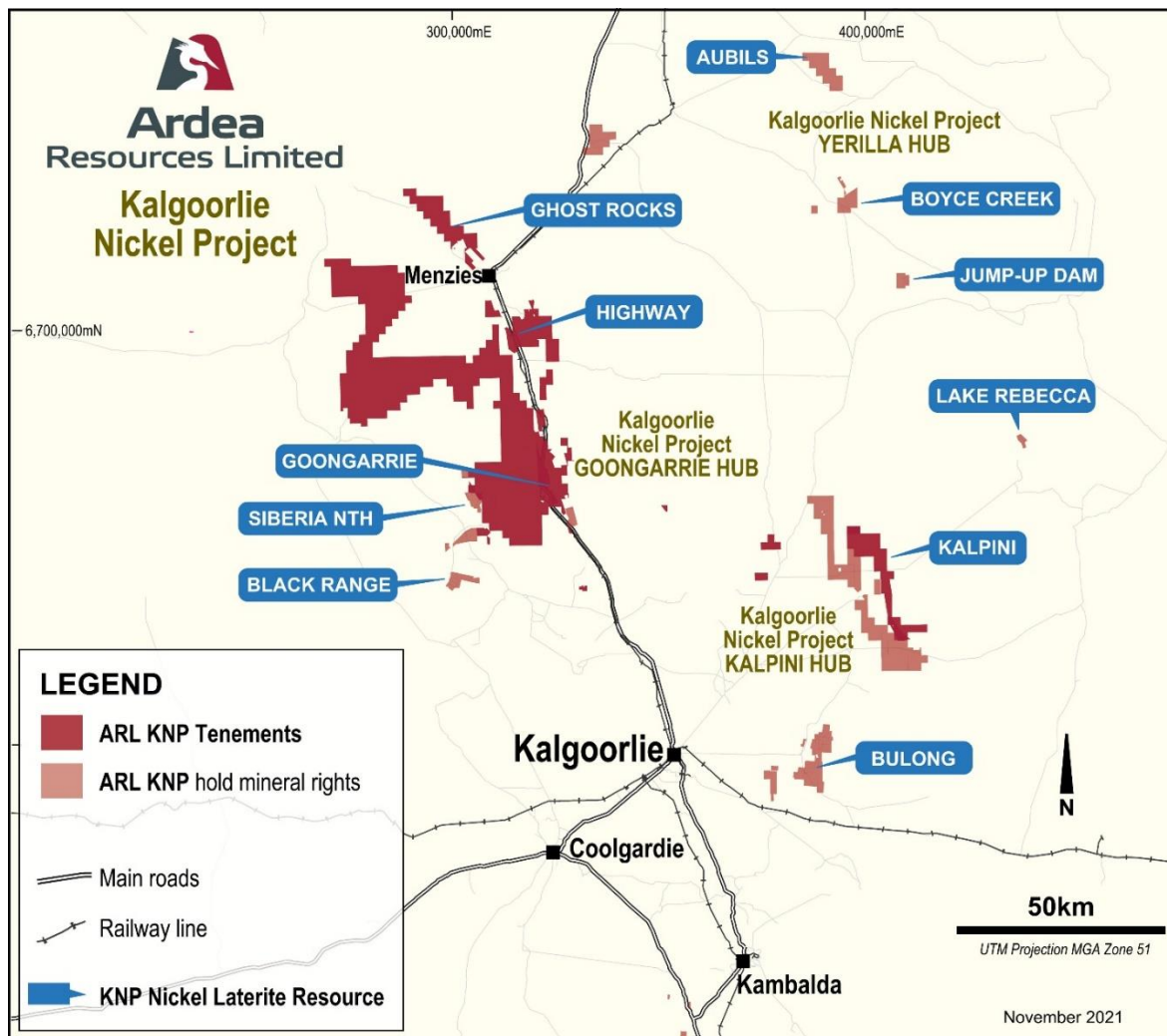


Figure 3: KNP location and infrastructure plan. Projection GDA94 MGA94 Zone 51.



Figure 4: Aerial image of Ardea's Goongarrie Hub looking south showing road and rail infrastructure within the project and the semi-arid woodland environment, ideal for project development, particularly safe tailings management rapid revegetation post mining.

## Feasibility Programs

The KNP is owned 100% by Ardea and is undergoing a DFS for a 3.5Mtpa operation, with two HPAL autoclaves, each rated at 1.5Mtpa, as well as an AL circuit of 0.5Mtpa. The leach streams will initially produce MHP as an ethical and sustainable supply chain product for the LIB sector. There is potential to upgrade to PCAM as a stage 2 enhancement.

The Goongarrie Hub Material Types allows the mineralisation to be optimally matched to the HPAL and AL circuits, and results in maximising resource utilisation. Plant feed which in previous schedules was stockpiled for late project HPAL processing is now designed to feed the AL circuit contemporaneously with mining.

Significantly, the additional sulphuric acid now required for the AL circuit leads to a larger sulphur-burning acid plant. The Acid Plant reaction chemistry is highly exothermic and generates substantial steam which will be used to generate electricity and process heating for the site. This allows a material de-carbonising of the project which is already low by industry standards (Figure 5 and 6) and will continue to be reduced as part of ongoing DFS work.

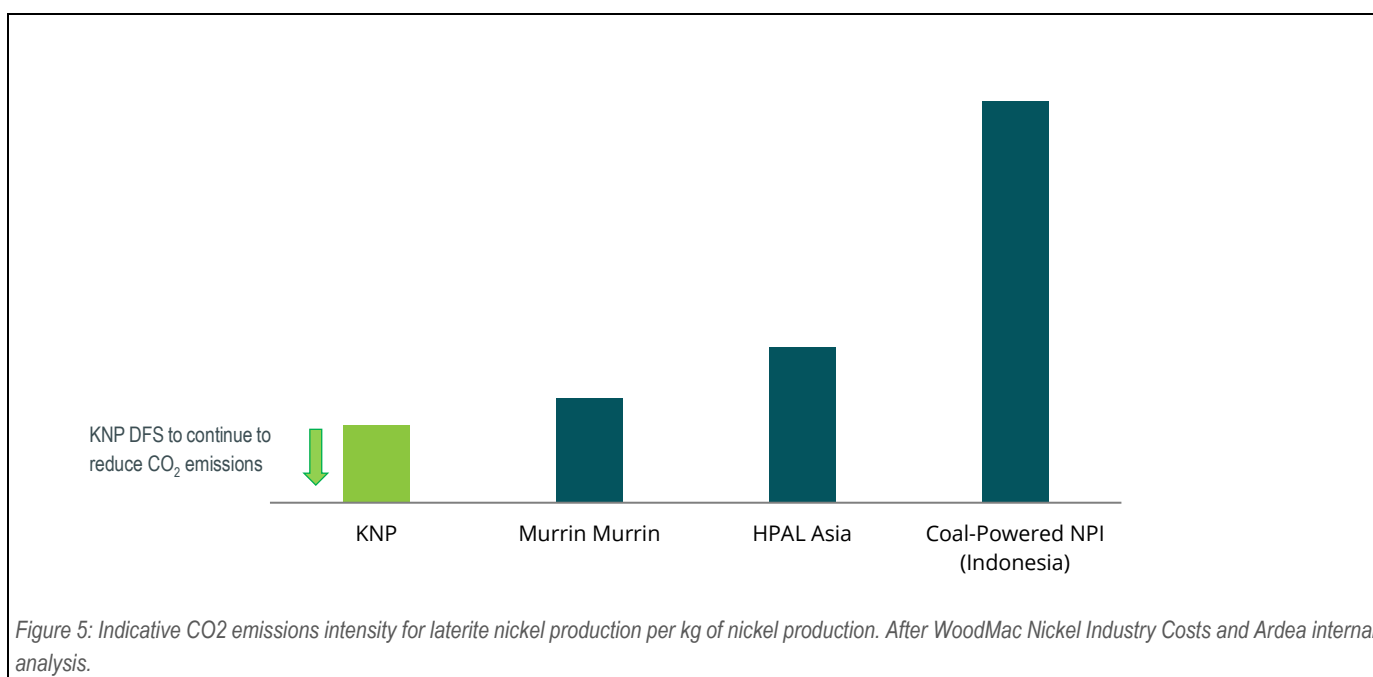


Figure 5: Indicative CO<sub>2</sub> emissions intensity for laterite nickel production per kg of nickel production. After WoodMac Nickel Industry Costs and Ardea internal analysis.

## Gap Analysis Study

Global consulting engineering firm, Wood, working with the Ardea technical team, have completed the GAS, reviewing and consolidating all KNP feasibility data, including Ardea's successful Goongarrie Prefeasibility Study (PFS) (ASX release 28 March 2018) and Expansion Study (ASX release 24 July 2018).

The considerable new feasibility work undertaken by Ardea since the 2018 studies were completed, has culminated in the definition of an enhanced base case flow sheet (Figure 7) being assessed as part of the GAS and designed to be carried forward into the DFS. The findings from the GAS study and in-progress bench scale metallurgical test-work will be carried forward to complete the Goongarrie Hub DFS.

As well as the Ardea 2018 KNP studies, the A\$34.5M PFS completed by former KNP joint venture partner Vale Inco in 2009 in partnership with previous KNP owner Heron Resources, has been a valuable information source. In particular, Vale Inco completed considerable bench-scale metallurgical work on screen beneficiation which Ardea has used in framing its current metallurgical bench-scale laboratory programs.

Vale Inco bench-scale test-work also returned favourable nickel-cobalt recoveries from Atmospheric Leach test work. However, at that point in time, Vale Inco's focus was on an alternate ancillary non-HPAL flow sheet which did not progress. Accordingly, there was no consideration for the potential benefits from including an AL circuit. With the Global Financial Crisis of 2008, Vale Inco closed multiple operations and withdrew from the KNP joint venture.

Subject to current metallurgical test-work results with their independent review by Wood, Ardea intends to include an AL circuit at Goongarrie. As discussed above, in addition to providing additional nickel-cobalt production, the AL circuit will also facilitate the site acid and energy balance.

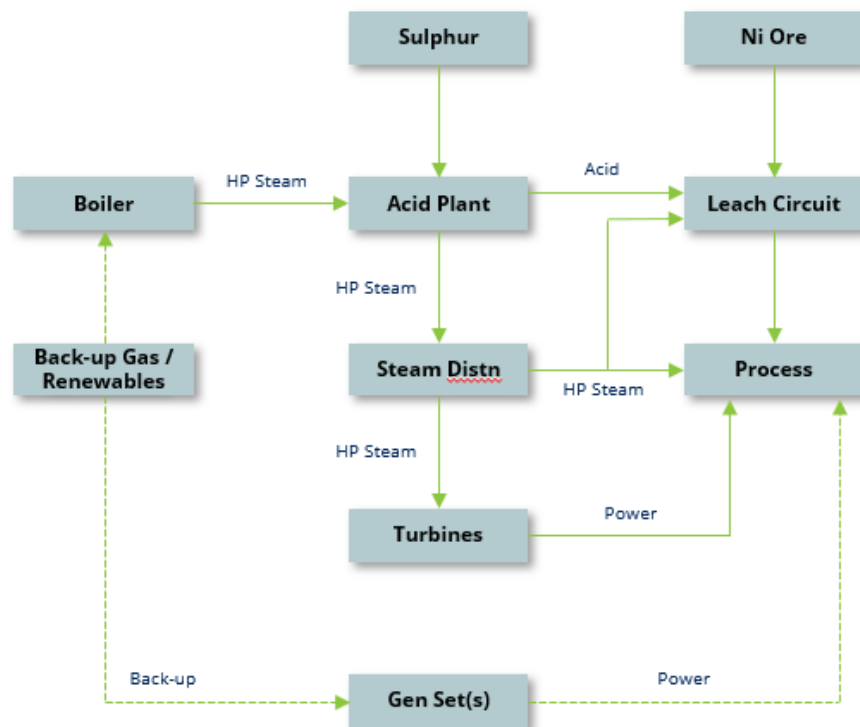
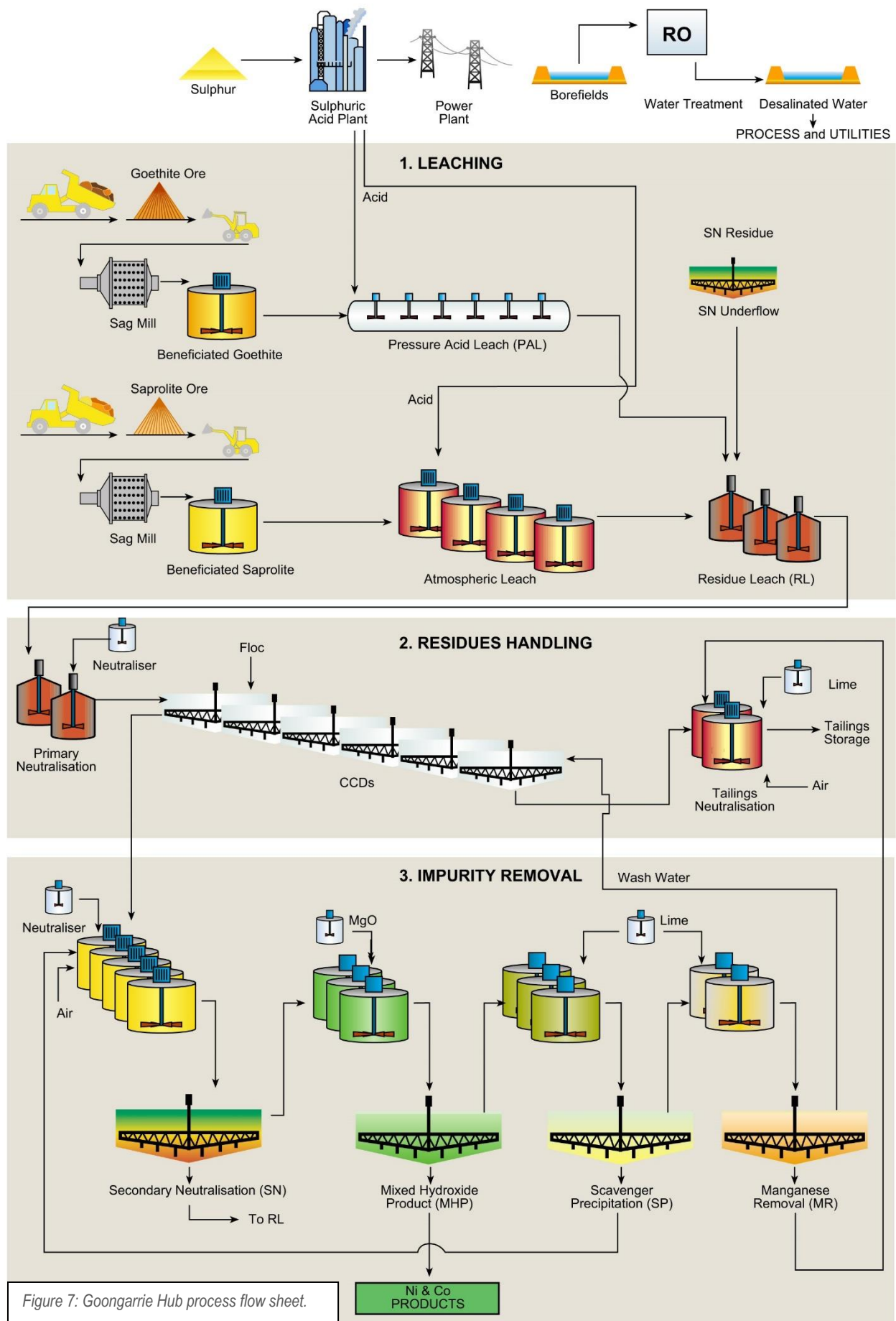


Figure 6: KNP Acid plant – Steam Power Block Flow Diagram. Heat generated from on-site acid plant will be used for generating electrical power via steam turbines.





## Resource Modelling

Over the past 18 months, the KNP has undergone a series of high-grade nickel optimisations for >1% nickel plant feed options, leading to “desk-top” by-product metallurgical studies including scandium, and ensuring that all mineral resource estimation uses uniform methodologies. A review of the full KNP high-grade nickel Mineral Resource Estimate (**MRE**) is current.

The combined Mineral Resources at the Goongarrie and Highway deposits that are planned to feed a starter processing plant development at the KNP Goongarrie Hub are reported below (Table 1), with an initial focus on the high-grade resource based on a 0.8% Ni cut-off.

The full Goongarrie Hub now has a single Material Types algorithm based solely on XRD-generated mineralogy. This modelling is the basis for pit optimisations, metallurgical flow sheet and engineering designs.

Most importantly, Material Types are now segregated into HPAL feed, AL feed and Neutraliser.

Drill core for current metallurgical test-work has been selected on the basis of the modelled Material Types.

Table 1 - Highway and Goongarrie (ASX release 16 June 2021) nickel and cobalt Mineral Resources using a 0.8% Ni cut-off grade

Deposit	Resource Category	Tonnes (Mt)	Ni %	Co %	Contained Metal	
					Ni (kt)	Co (kt)
Goongarrie Hub (GH, GS, BF & SD)	Measured	11.0	1.13	0.106	125	11.6
	Indicated	41.5	0.97	0.070	404	29.0
	Inferred	7.1	0.95	0.051	67	3.6
	<b>Subtotal</b>	<b>59.6</b>	<b>1.00</b>	<b>0.074</b>	<b>595</b>	<b>44.3</b>
Highway	Indicated	15.1	1.01	0.053	152	8.0
	Inferred	3.7	0.98	0.053	36	2.0
	<b>Subtotal</b>	<b>18.8</b>	<b>1.00</b>	<b>0.053</b>	<b>188</b>	<b>10.0</b>
<b>Combined Deposits</b>	Measured	11.0	1.13	0.106	125	11.6
	Indicated	56.5	0.98	0.066	556	37.1
	Inferred	10.8	0.95	0.051	103	5.6
	<b>Grand Total</b>	<b>78.3</b>	<b>1.00</b>	<b>0.069</b>	<b>784</b>	<b>54.3</b>

Ardea's updated 2021 Goongarrie and Highway resource estimates were incorporated with historic KNP resource estimates compiled by various parties between 2004 and 2009 and signed off to meet JORC-2012 guidelines by Heron Resources in 2013 (refer Table 2 below).

The significant observation is that the KNP Goongarrie Hub MRE of 561Mt with 3.8Mt of contained nickel and 248kt of contained cobalt will be able to supply premium goethite plant feed to a HPAL process plant located at Goongarrie for multiple decades.



Table 2 – KNP nickel and cobalt Mineral Resources based on a 0.5% Ni cut-off grade

Camp	Prospect	Resource Category	Size (Mt)	Ni (%)	Co (%)	Contained Metal		Estimation Details		
						Ni (kt)	Co (kt)	Method	Source	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	2021
		Inferred	21	0.67	0.040	141	8	LUC	Ardea	2021
	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	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			
		<b>Combined</b>	<b>398</b>	<b>0.69</b>	<b>0.044</b>	<b>2,753</b>	<b>175</b>			
Siberia	Siberia South	Inferred	81	0.65	0.033	523	27	OK	Snowden	2004
	Siberia North	Indicated	10	0.64	0.051	64	5	OK	Snowden	2009
		Inferred	53	0.66	0.043	352	23	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	19	0.65	0.070	126	13			
		Inferred	144	0.66	0.041	943	59			
KNP Goongarrie Hub	TOTAL	Measured	18	0.94	0.085	171	15			
		Indicated	272	0.69	0.046	1,885	126			
		Inferred	270	0.65	0.039	1,767	107			
		<b>Combined</b>	<b>561</b>	<b>0.68</b>	<b>0.044</b>	<b>3,822</b>	<b>248</b>			
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
	Bulong East	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			
Hampton	TOTAL	Measured	16	1.06	0.055	169	9			
		Inferred	114	0.76	0.047	859	53			
KNP Kalpini Hub	TOTAL	Measured	16	1.06	0.055	169	9			
		Inferred	114	0.76	0.047	859	53			
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
		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			
		<b>Combined</b>	<b>140</b>	<b>0.73</b>	<b>0.053</b>	<b>1,028</b>	<b>74</b>			
KNP TOTAL	TOTAL	Measured	22	0.94	0.079	207	17			
		Indicated	357	0.72	0.047	2,584	168			
		Inferred	452	0.68	0.044	3,088	199			
		<b>Combined</b>	<b>830</b>	<b>0.71</b>	<b>0.046</b>	<b>5,879</b>	<b>384</b>			

Legend: LUC – Local Uniform Conditioning; OK – Ordinary Kriging.

## Processing Research and Development - Scandium and Rare Earth Elements

Within Ardea's KNP tenure the priority Research and Development (**R&D**) focus continues upon the Critical Minerals essential for the new age technologies used in limiting carbon emissions, such as the EV, Static Storage Battery (**SSB**) and wind-turbine sectors.

Highly-sought Critical Minerals 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. The KNP also has common Ce, and potential for Dy 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, Mo, Te, Ti, Sn, W, Y, Zr; and
  - PGEs - Ru, Rh, Os (due to excessive assay cost, using Pt-Pd as a pathfinder in pulp re-assay).

All of these Critical Minerals can be assessed 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 be in stand-alone economic concentrations in their own right. Recovery of these metals relies on nickel and cobalt hydrometallurgical recovery, potentially providing significant credits and upside to the project economics. In-progress metallurgical test work will help determine the viability of recovering co-product Critical Minerals from the HPAL Pregnant Liquor Solution (**PLS**).

Critical Minerals research and development is predicated on the Ardea multi-element assay suite used in all sampling programs. The main 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).

## Critical Minerals

Ardea continues to engage with the Commonwealth Critical Minerals Facilitation Office and other State and Federal agencies, such as Austrade. Meetings with various other industry groups also continue.

During the Quarter, research continued on the Ardea drill hole data base, defining multiple Critical Mineral REE settings. The REE enrichment mirrors nickel-cobalt enrichment at the Magnesia Discontinuity within the regolith. The R&D programs have focussed on hydrometallurgical REE recovery (notably Nb, Pr and Ce) in parallel circuit with scandium (using Ion Exchange).

Preliminary calculations for the extraction and deportment of the REEs have been developed and Ardea's current DFS metallurgical test-work R&D will determine the viability of this significant potential.

The main projects reviewed during the Quarter were Siberia, Yerilla and Kalpini with 2,442 assay pulps from the Kalpini project tenements submitted for assay using Ardea's detailed multi-element assay suite.

The Yerilla nickel laterite in particular has been the subject of REE R&D, on the basis of late stage alkaline sanukitoid-style intrusives with which the area's extensive (alluvial) gold mineralisation is associated (gold rights owned by spin-out company KalGold). Additionally, the R&D program identified significant palaeo-channel dolomite neutraliser resources which complement the high cobalt tenor of the Yerilla nickel laterite resources (warranted as satellite ore feed to Goongarrie).

Pulp assay results will continue to be reviewed and interpreted, with appropriate follow-up work planned.

**CSIRO**

Ardea continues to work with industry leading partners, such as CSIRO. During the Quarter work streams undertaken with CSIRO included a Hylogger 3 study using samples from the Highway metallurgical drilling program.

A co-funded nickel sulphide study is also continuing, with several samples from Emu Lake drill core selected and currently being assessed.

**FBICRC**

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

Ardea continues to sponsor and work with the FBICRC team on the following work streams:

1. Cathode Precursor Project.
2. Innovative Nickel-Cobalt Extraction.
3. Electrochemical testing of Australian battery materials in standard cell formats.
4. Provenance and Trusted Supply Chains.
5. Certification and Environmental life Cycle Assessment.

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

Ardea is pleased to advise that the FBICRC has signed a contract valued at \$18M to design and commission the FBICRC's flagship PCAM Pilot Plant in Western Australia (ASX release 22 October 2021).

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

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

**Bench-scale Metallurgy**

Diamond drilling commenced at the Goongarrie Hub on 18 July 2021 to obtain test material for bench-scale metallurgical studies. This drilling program was completed on 10 October 2021, with a total of 39 diamond drill holes for 3,203m drilled at Highway and the Goongarrie deposits. Detailed logging of all holes was completed during the Quarter. Metallurgical composites from Highway drill core samples have been prepared and test-work commenced at the ALS metallurgical laboratory in Perth in early December 2021.

As well as conventional HPAL, the metallurgical test-work program is investigating atmospheric leaching of high-magnesium plant feed as well as the mineralised neutraliser, which would be performed in parallel to HPAL leaching of the iron-rich goethitic feed. From a process perspective, atmospheric leaching will be beneficial for stabilising the overall circuit, especially with regards to sulphuric acid plant production and its role in maintaining the off-grid, carbon free, site energy balance. Other ALS test-work will include HPAL, AL and Sc-REE refining.

**Hydrogeology**

At Goongarrie, all nickel-cobalt-scandium 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 potential water sources with water for project development expected to be sourced from dedicated bores and conventional open pit dewatering ahead of mining.



Two applications for groundwater extraction licences (**GWL**) have been submitted to the WA Department of Water and Environmental Regulation (**DWER**) to secure this water from tenements already held by Ardea, near the planned Goongarrie Hub processing plant. The first application is for a draw of 2GLp/a from fractured bedrock and the second application is for a draw of 1.5GLp/a from palaeo-channel sands.

During the Quarter, four water production bores for 296m were drilled, pump tests completed and detailed hydrogeological reports drafted and submitted to the DWER to support the two applications for groundwater extraction licences.

Both typical Eastern Goldfields saline water and potable water will be required for project development.

Ardea's US-based nano-filtration R&D test-work has already demonstrated the potential for this technology to be used for softening the HPAL water feed and for recycling barren process water to reduce both the project's water consumption and its water evaporation pond footprint.

### **Infrastructure and Logistics**

During the Quarter a logistics study was completed on being able to transport the two 1.5Mtpa autoclaves through the Port of Esperance and via road to the plant site at Goongarrie. No impediments were identified.

As part of its ongoing stake holder engagement, Ardea has accelerated communications with a number of key stake holders, including:

1. The City of Kalgoorlie-Boulder – to provide both organisations with an update on key project development considerations, such as infrastructure and worker accommodation. Monthly meetings continue and a co-operation MoU was executed on 23 December 2021.
2. Southern Ports, Esperance - to provide both organisations with an update on key project development considerations, such as the transport of goods and services between Esperance and Goongarrie.

### **Environment and Rehabilitation**

All project development within the KNP is aimed at ensuring 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 remaining 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 very small component (Figure 8).

Comprehensive KNP flora and fauna surveys by Vale Inco in 2009 and Ardea in 2017 have confirmed environmental sustainability within the "temperate dry laterite" ecosystem.

Mine rehabilitation methodology is facilitated through three decades of WA open pit gold mine operations, and the KNP footprint is minimised through use of mining voids for tailings and mullock (in any event KNP has a low strip ratio, so relatively low mullock generation during mining).

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 (including seismic thixotropy). Tailings disposal in these environments tends to be further complicated by high rainfall and the fact that most tropical laterite deposits are located in seismically active regions. Additionally, wet tropical laterite production areas commonly involve non-restorable rain forest habitat destruction, which is unacceptable to OECD battery metal end-users.

It is doubtful whether wet tropical laterite hydrometallurgical battery metal sources can comply with the ESG standards required by the EV sector, particularly where submarine tailings disposal is used. Similarly, with in excess of 3,000mm of annual rainfall, it is an immense challenge for long-term tailings stabilisation.

Remarkably, the KNP semi-arid climate is likely just as important as its high nickel grade for its robust environmental and economic viability.



Figure 8: Metallurgical test-work diamond drilling in progress at Highway. Note the extensive and flourishing Great Western Woodland flora.

## 2. WA NICKEL SULPHIDE

Ardea's extensive and strategic land holding in the Eastern Goldfields of WA covers over 3,300km<sup>2</sup> based on Archaean ultramafic occurrences and in addition to the globally significant nickel-cobalt-scandium KNP resource, is highly prospective for nickel sulphide and Critical Minerals (Figure 3 and 9).

### Ardea Nickel Sulphide Strategy

Ardea's principal focus continues to be the development of the KNP, commencing with the Goongarrie Hub nickel laterite deposits. However, Ardea's strategic tenure in the heart of the Eastern Goldfields of Western Australia is also highly prospective for nickel sulphide which is mined extensively throughout the region. Ardea's nickel sulphide strategy complements the development of the KNP. The KNP nickel sulphide targets are a valuable asset in a region of multiple nickel sulphide concentrators, with most constrained by insufficient sulphide feed availability.

Ardea's KNP tenure hosts extensive zones of ultramafic stratigraphy which hosts the KNP nickel laterite resources (Figure 9). This same tenure is highly prospective for both Kambalda style komatiite lava flow and Nova-Julimar style intrusive related nickel sulphide mineralisation. It is important to note that any nickel sulphide discovery has the potential to be processed supplementary to laterite mineralisation through the autoclaves planned for Goongarrie.

Although sulphides would only be processed in limited quantities compared to the lateritic throughput, they have the added benefit of helping control autoclave oxidising potential, assisting exothermic reaction kinetics (reduce autoclave steam heating requirement), and typically improving overall nickel recoveries.

An additional bonus is that metal concentrations considered deleterious to conventional nickel sulphide flotation concentrator processing (and that have historically curtailed development of several Eastern Goldfields deposits) do not affect the HPAL process, opening the possibility of mineral extraction from nickel sulphide deposits that may otherwise be overlooked.

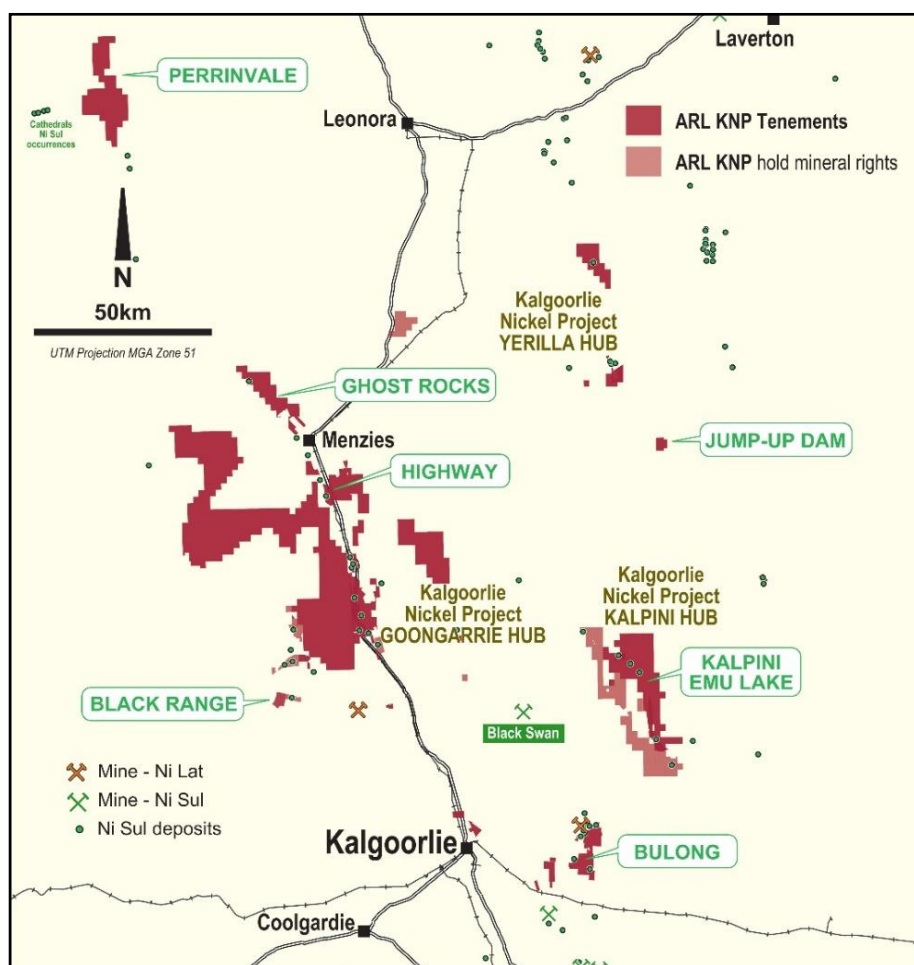


Figure 9: KNP Nickel Sulphide prospect plan.  
Projection: GDA94 MGA Zone 51.

### Emu Lake Nickel Sulphide Prospect

Ardea's Kalpini Nickel Project extends over 121km<sup>2</sup> and hosts 75Mt at 0.73% nickel and 0.044% cobalt occurring as lateritic nickel mineralisation (Ardea ASX release, 16 June 2021). The high priority Ardea nickel sulphide target at Kalpini, termed Emu Lake, is located 70km north-east of Kalgoorlie (Figure 9). Emu Lake hosts an historic 1990s nickel sulphide prospect termed "Binti Gossan". The strategic Kalpini tenement package contains an East and West Komatiite Belt each with 20km of strike of prospective nickel sulphide komatiite ultramafic stratigraphy held 100% by Ardea and mostly within granted mining leases. The project is located 35km east of the Black Swan Nickel Project, owned by Poseidon Nickel Ltd, within a comparable and parallel komatiite volcanic belt.

During the Quarter, Ardea completed a 450m diamond drill hole, AELD0003 down plunge of the AELD0002 intersection of 4.8m at 1.44% Ni and 0.16% Cu from 365.9m, including 1.10m at 4.78% Ni and 0.16% Cu from 366.9m (ASX release 10 June 2021).

AELD0003 intersected a **basal contact nickel sulphide occurrence** (Figure 10) and **confirmed a high-grade massive nickel-copper-PGE sulphide discovery on an intact felsic footwall contact**. Significant results from this round of drilling include (ASX release 3 December 2021 and 14 January 2022):

- **1.23m at 8.22% Ni**, 0.56% Cu, 0.46g/t Pt, 0.31g/t Pd from 391.04m downhole consisting of massive nickel sulphides, within a broader zone of:
- **2.72m at 5.42% Ni**, 0.85% Cu, 0.58g/t Pt, 0.27g/t Pd from 391.04m downhole consisting of massive, semi-massive, disseminated and matrix nickel sulphide.

The AELD0001 to 3 discovery area is now termed "Binti South" with DMIRS formally notified of the discovery.



Ardea has now conclusively confirmed the prospectivity of the Western Ultramafic surface, part of the westerly ultramafic position that has received little attention from past explorers. This is a major step forward for the Company and has opened up a new search space. With Ardea holding 20km of fertile komatiite strike at Emu Lake on the East and West Komatiite Belts, there is significant scope to extend the Binti Gossan and Binti South discoveries and make additional nickel sulphide discoveries. With nickel sulphide deposits commonly occurring in clusters, Ardea is confident of defining a significant nickel sulphide camp, within the Company's Kalpini tenure.



Figure 10: AELD0003, NQ2 drill core showing massive sulphide zone (391.04 – 393.76) and adjacent zones which exhibit high competency (solid core) and high recoveries. The core competency and lack of talc-chlorite shearing augurs well for good mining ground conditions. Note the down hole depth metre marks shown in black on the core trays.

In "Silver Swan style" nickel sulphide systems (as Emu Lake clearly is), the exploration methodology is to define a komatiite volcanic flow channel system, then determine whether the system is fertile for nickel sulphides. The geochemical assay results from AELD0003 confirm an exceptionally fertile system, entirely comparable to that documented for Silver Swan.

Of significance in terms of exploration model, the Emu Lake massive nickel sulphide is predominantly hosted by an underlying (before fold overturning), highly altered pyrite-arsenopyrite bearing dacite (termed the Footwall Dacite).

Current CSIRO theory supports the "**Thermal Erosion Model**" where concentrations of massive nickel sulphide accumulate at the base of an ultramafic lava flow (Figure 10 and 11). Key conditions believed to contribute to these nickel sulphide accumulations include a very hot 1,600°C, very turbulent lava flow, which scours and mixes underlying high sulphide bearing footwall rocks into the flow. A preserved intact basal contact and remnants of dacite within the



massive sulphides in AELD0003 supports a Thermal Erosion Model, which is believed to be the mechanism for nickel mineralisation at both the Emu Lake and Silver Swan areas.



Figure 11: AELD0003 NQ2 drill core showing thermal erosion of the footwall dacite unit in the top section of the photo and massive nickel sulphide in the bottom section of the image.

The DHEM conductor from AELD0002 was stronger than that seen in AELD0001 and in light of the increased quantity of massive nickel sulphide observed in AELD0003, when compared to AELD0002, indicates that the extent of nickel mineralisation is increasing.

DHEM is optimal when off-hole conductors are up to 50 metres away. As hole AELD0003 intercepted the massive sulphide (conductor), its DHEM survey results were largely ineffective and inconclusive.

Ardea RC drill hole, AELR0002, was drilled up plunge of AELD0002 into the weathered zone to quantify the ultramafic stratigraphy and confirms up-dip continuity of the Western Ultramafic “fertile horizon” (Figures 12 and 13).

The AELR0002 komatiite flows are intensely altered and only recognised as ultramafic rocks using Ardea’s geochemical indices (Table 1 in ASX release 14 January 2022). This previous non-recognition of ultramafic has significantly contributed to the absence of historic drill exploration on what should have been a high priority target.

Neither surface geochemical sampling nor surface geophysical surveys are likely to detect such a system, with drilling and DHEM the most effective exploration method for this style of “blind” deposit. The exploration difficulty is further exacerbated by the limited strike length of Silver Swan style mineral systems.

The mineralised zone defined in Ardea drill holes AELD0002 and AELD0003, is open in all directions and shows increased thickness of the channel, in the down-plunge direction.

With Ardea controlling 20km of strike of this essentially unexplored komatiite channel system, there is significant scope to make additional discoveries. Initial follow up will focus on Binti South and the 1km of strike north to Binti Gossan. To date, three fertile surfaces have been identified (ASX release 14 January 2022).

Mineralisation of the AELD0003 style would be expected to generate a premium nickel sulphide concentrate with high copper and PGE credits. Importantly, the AELD0003 massive nickel sulphide mineralisation has no arsenic penalty component.

From a mining perspective, there is an absence of talc-chlorite schist in association with the mineralisation, suggesting good ground conditions in any future mining.

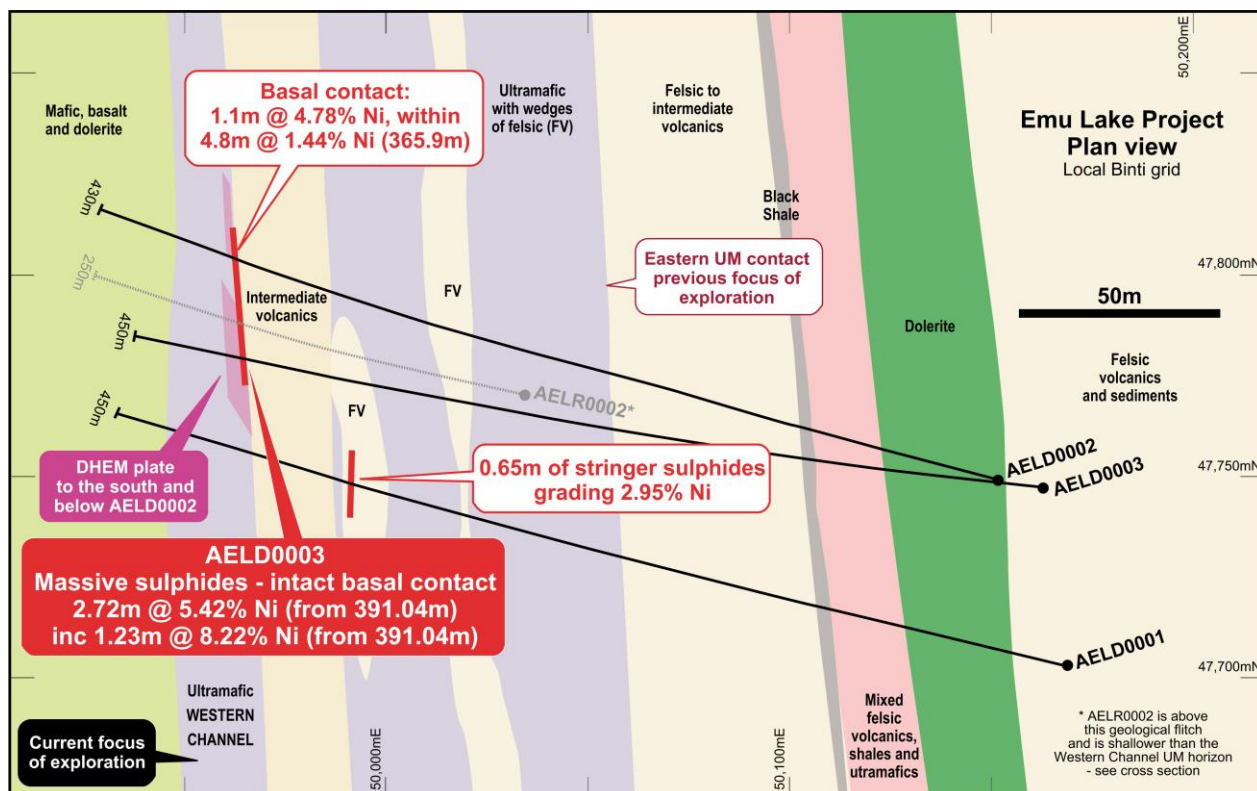


Figure 12: Drill hole location plan, showing the Western, Central and Eastern Ultramafics. Local Binti Grid.

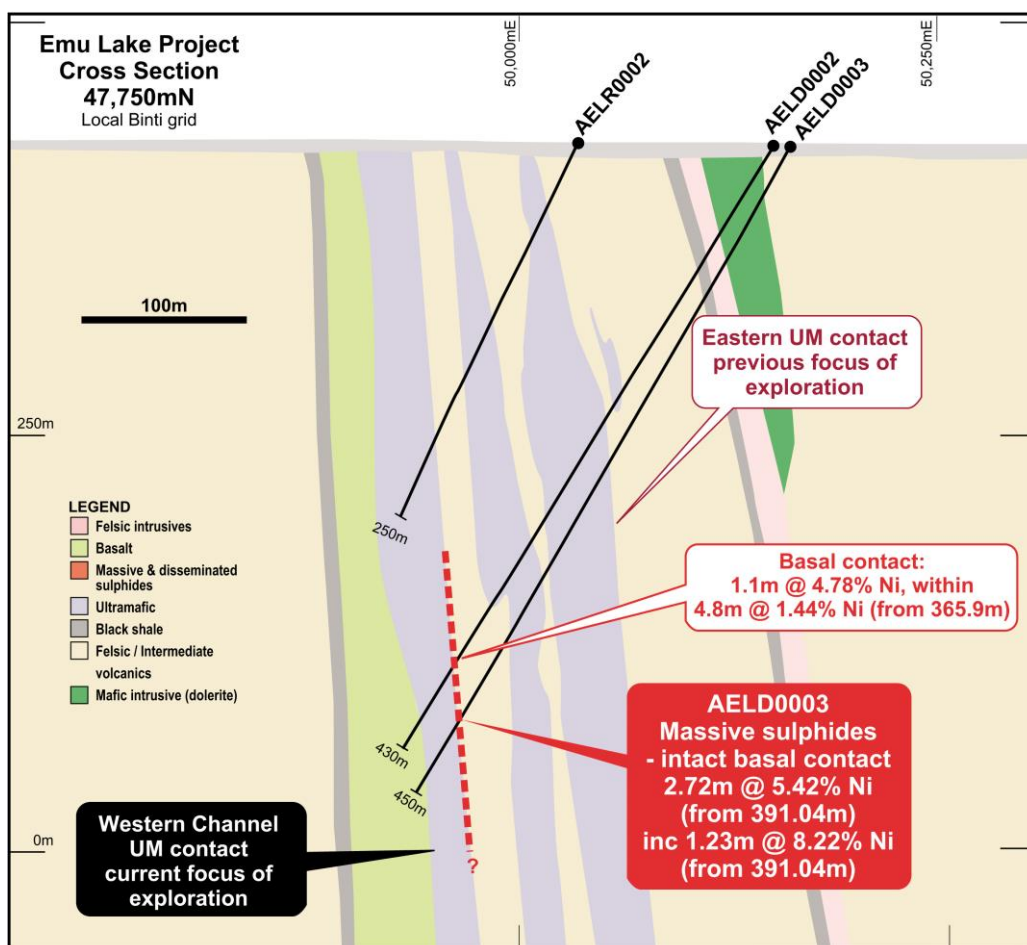


Figure 13: Cross section 47,750mN, showing the Western, Central and Eastern Ultramafics. Local Binti Grid.



## Next Steps

An Exploration Incentive Scheme diamond hole (co-funded with the WA State Government) has been approved to test the down plunge extension of AELD0003. A drilling contractor has been secured for follow-up diamond drilling, with each hole to also include DHEM surveys.

CSIRO work closely with Ardea and are currently researching the nickel sulphide mineralised occurrences and komatiite flow channel palaeo-geography at Emu Lake. Their findings will further assist with nickel sulphide exploration vectoring.

## Bardoc Tectonic Zone Nickel Sulphide

Exploration to unlock the nickel sulphide potential throughout Ardea's ground holding in the Bardoc Tectonic Zone continued during the Quarter. This work is assessing the ultramafic sequences of the KNP, where nickel sulphide mineralisation, if it exists, would be located in undrilled fresh rock beneath the laterite deposits. Using various geochemical markers, detailed petrographic studies, and re-evaluating historical geophysical data, new targets are being developed for potential drill testing.

## 3. CORPORATE

### Gold Spin-out – Kalgoorlie Gold Mining Limited

With the successful listing of Kalgoorlie-focussed gold spin-out, Kalgoorlie Gold Mining Limited (**KalGold**) in November 2021, including in-specie distribution of shares at nil cost to eligible Ardea Shareholders, Ardea's sole focus is the flagship KNP battery minerals project.

### Divestment of Bedonia West

Following the listing of Larvotto Resources Limited (ASX:LRV) on ASX during the Quarter, Ardea has been issued 1,000,000 LRV shares. These vendor shares are under escrow for 12 months.

## Strategy

Ardea's priority is KNP nickel-cobalt-scandium laterite project development, commencing with Goongarrie, to produce battery minerals for the LIB supply chain to further advance the transition to a low carbon future. The starter KNP development project is the Goongarrie Hub to capitalise on the premium goethite ore type and infrastructure-rich location. Complementary exploration and development opportunities in nickel sulphide and Critical Minerals (notably REE) will also be pursued, such as the recent nickel sulphide discovery at Emu Lake.

## Finance

The Company's cash position was \$6.2M at Quarter end with no debt. All current programs are well funded,

Issued capital as at, 31 December 2021 was 138,830,219 shares, with 4,971,000 Performance Rights and 4,000,000 options. Subsequent to Quarter end, 200,000 Performance Rights were cancelled, with the current number 4,771,000.

### Summary of Expenditures for the Quarter

During the Quarter, the Company incurred a total net expenditure from operating activities of \$1,955k. This was made up of \$672k expended on exploration and evaluation activities, \$1,845k on development activities, \$121k on staff costs, \$198k on administrative and corporate costs and \$223k on completing the KalGold spin-out, with the balance on minor items. Funds received during the Quarter included interest of \$2k and a KalGold loan repayment of \$1,102k.

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 \$206.5k and rental for the Company's West Kalgoorlie operations office of \$15k 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.

#### **4. LOOKING FORWARD**

During the March 2022 Quarter, Ardea will focus upon the following programs.

##### **Kalgoorlie Nickel Project**

Ardea will continue to work with all stakeholders, including industry groups and State and Federal Government to guarantee that project development is predicated on ensuring sustainable and ethical standards.

##### **Strategic Partner Process**

- Continue to manage and update the Virtual Data Room, in which activity has markedly increased.
- Continue active discussions to select a preferred project partner to work with Ardea, with off-take rights linked to project equity investment and securing project development funding.
- Ardea have appointed a well-regarded and successful corporate and financial advisory group with strong links in North America, Europe, the United Kingdom and Northeast Asia. The same group have been advising a number of ASX listed Critical Minerals resource companies, with significant success.

##### **Stake holder Engagement**

- Community consultation, notably with the City of Kalgoorlie Boulder, Shire of Menzies, Southern Ports Esperance and in particular with our First Nations groups.
- Continue engagement with groups such as the CSIRO, Australian Commonwealth Government, WA State Government, FBICRC and Critical Minerals Facilitation Office.

##### **Resource Upgrades**

Complete the Siberia North, Kalpini, Bulong, Lake Rebecca, Yerilla and other satellite nickel-cobalt prospect pulp re-assays with resource updates. These deposits can be considered as additional plant feed for the Goongarrie Hub or in the case of Kalpini, Bulong, Lake Rebecca and Yerilla, as a separate production hub to further increase nickel-cobalt production rates from the KNP.

##### **Flowsheet Research and Development**

Continue evaluating additional by-product credit potential from the HPAL/AL pregnant liquor solution to supplement the nickel-cobalt-scandium resource. With bench-scale test-work underway, this process is being accelerated. This work continues to minimise the project development footprint and carbon emissions while adhering to Western Australia's world-class safety, health, environmental and operating standards.

##### **KNP Feasibility**

Accelerate DFS work streams with Wood and incorporate the learnings from the in-progress bench scale metallurgical test-work focussed on mineralised neutraliser and Critical Minerals to further refine the DFS scope of work. Advance feasibility study work streams utilising both in-house personnel and supporting consultants, such as Wood.

### **WA Nickel Sulphide, Critical Minerals**

Detailed geological modelling ahead of follow up drilling of the Emu Lake nickel sulphide discovery, with deep core drilling, DHEM and other work streams to optimise targeting between Binti South and Binti Gossan.

Review of geological settings favourable for nickel sulphide mineralisation and Critical Minerals within Ardea's strategic tenement holding will continue, with this approach demonstrated to be effective by the recent nickel sulphide discovery at Emu Lake (ASX release 14 January 2022). Other project areas will also continue to be cost effectively reviewed using Ardea's extensive database, sample drill pulps available for re-assay at the West Kalgoorlie office and detailed geophysical datasets.

### **Investor Relations**

The next conference Ardea is scheduled to attend will be the RIU Explorers Conference at Fremantle over the period 15 to 17 February 2022. The Company will be presenting on 17 February at 11:45am WST and also have personnel available for questions at booth 6. Shareholders who would like to attend the event are welcome to contact the Ardea office.

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

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

**Andrew Penkethman**

Managing Director and Chief Executive Officer

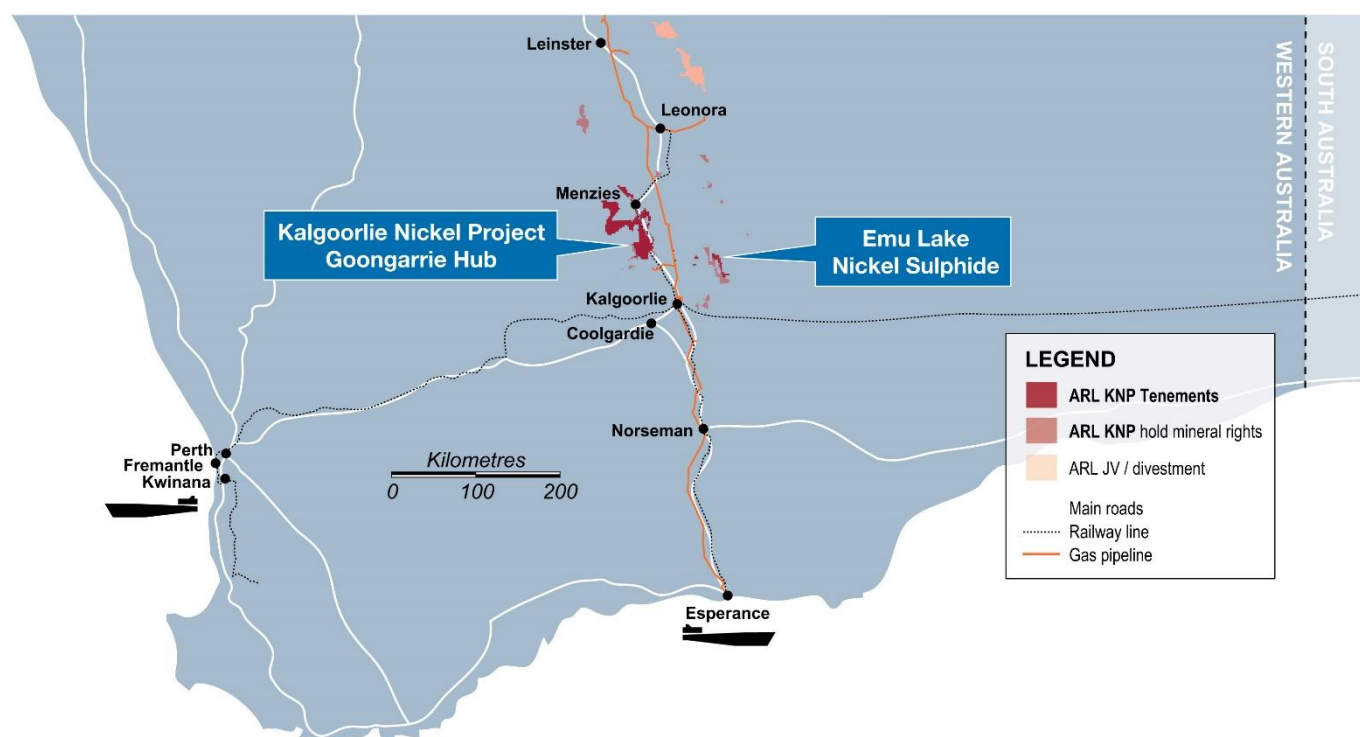
Tel +61 8 6244 5136



## About Ardea Resources

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

- Development of the KNP and its sub-set the Goongarrie Hub, a globally significant series of nickel-cobalt and Critical Mineral deposits which host one of the largest nickel-cobalt resources in the developed world at **830Mt at 0.71% nickel and 0.046% cobalt for 5.9Mt of contained nickel and 380kt of contained cobalt** (ARL ASX announcement 16 June 2021) located in a jurisdiction with totally benign climate and strong Community support leading to exemplary ESG credentials.
- Advanced-stage exploration of compelling nickel sulphide and Critical Minerals targets within the KNP Eastern Goldfields world-class nickel-gold province, with all exploration targets complementing the KNP nickel development strategy. Ardea's new Emu Lake nickel sulphide discovery totally validates the exploration philosophy (ASX release 14 January 2022).



Follow Ardea on social media



## COMPLIANCE STATEMENT (JORC 2012)

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

1. KNP Cobalt Zone Study on 7 August 2017, PFS 28 March 2018 and Expansion Study 24 July 2018.
2. Goongarrie Nickel Cobalt Project, Supplementary Prospectuses 10 February 2017, Ardea Annual Report Nov 2017, ASX announcements 28 June 2017, 4 July 2017, 28 August 2017, 14 March 2018, 24 July 2018, 8 October 2018.
3. Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP, 30 September 2020.
4. GNCP High Grade Resource - 60 million tonne at 1.0% Nickel Sustainable Long-life Battery Metal Resource Confirmed, 15 February 2021.
5. Tenement Sale and Purchase Agreement signed with Larvotto Resources over Bedonia West, 26 February 2021.
6. Ardea confirms Nickel Sulphide Drill Target within the KNP, 2 March 2021.
7. Basal contact nickel sulphide intersected at Ardea's Emu Lake, 27 April 2021.
8. Kalgoorlie Nickel Project – Feasibility Study Underway, 31 May 2021.
9. Highway Nickel Deposit - Mineral Resource Estimate, 16 June 2021.
10. Nickel Sulphide Exploration Update - Emu Lake, 13 July 2021.
11. Kalgoorlie Gold Mining Limited Prospectus, 20 September 2021.
12. Annual Report 2021 – 24 September 2021.
13. Results of General Meeting of Shareholders - 25 October 2021.
14. Goongarrie Hub Feasibility Study Update, 15 November 2021.
15. Results of 2021 Annual General Meeting, 29 November 2021.
16. Nickel Sulphide Discovery Confirmed at Emu Lake, 3 December 2021.
17. Emu Lake Nickel Sulphide Discovery confirmed with 2.72m at 5.42% Ni, 14 January 2022.

The Company confirms that it is not aware of any new information or data that materially affects information included in previous announcements, and all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. All projects are subject to new work programs, notably drilling, metallurgy and JORC Code 2012 resource estimation as applicable.

The information in this report that relates to Resource Estimates for the KNP is based on information originally compiled by previous and current full-time employees of Heron Resources Limited and current full-time employees of Ardea Resources Limited. The Exploration Results, Resource Estimates and data collection processes have been reviewed, verified and re-interpreted by Mr Ian Buchhorn who is a Member of the Australasian Institute of Mining and Metallurgy and currently a director of Ardea Resources Limited. Mr Buchhorn has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activities undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Buchhorn consents to the inclusion in this report of the matters based on his information in the form and context that it appears. Mr Buchhorn owns Ardea shares.

The exploration and industry benchmarking summaries are based on information reviewed or compiled by Mr Andrew Penkethman, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Penkethman 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 activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Penkethman has reviewed this press release and consents to the inclusion in this report of the information in the form and context in which it appears. Mr Penkethman owns Ardea shares.

**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 Goongarrie Nickel Cobalt Project is at the PFS phase and although reasonable care has been taken to ensure that the facts are accurate and/or that the opinions expressed are fair and reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness. Actual results and developments of projects and the 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 and Expansion Study, which are based on forward looking statements, is that the Goongarrie Nickel Cobalt Project is considered to have positive economic potential.

The Mineral Resource used for the PFS was classified under JORC 2012 Guidelines and announced by the Company on 14 March 2018. The cut-off grades adapted for the PFS and reported in Table 3.1 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 Goongarrie Nickel Cobalt Project. 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

30 614 289 342

Quarter ended ("current quarter")

31 December 2021

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
<b>1. Cash flows from operating activities</b>			
1.1 Receipts from customers	-	-	-
1.2 Payments for			
(a) exploration & evaluation	(672)	(2,556)	
(b) development	(1,845)	(2,193)	
(c) production	-	-	
(d) staff costs	(121)	(240)	
(e) administration and corporate costs	(198)	(377)	
1.3 Dividends received (see note 3)	-	-	
1.4 Interest received	2	9	
1.5 Interest and other costs of finance paid	-	-	
1.6 Income taxes paid	-	-	
1.7 Government grants and tax incentives	-	(34)	
1.8 Other (provide details if material) – Kalgoorlie Gold costs to be repaid on IPO	(223)	(651)	
Kalgoorlie Gold costs repaid	1,102	1,102	
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,955)</b>	<b>(4,940)</b>	
<b>2. Cash flows from investing activities</b>			
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	-	-	



<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	99	99
	(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)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</b>	<b>99</b>	<b>99</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	5,700
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	-	(375)
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)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>5,325</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>	<b>(1,856)</b>	<b>484</b>
4.1	Cash and cash equivalents at beginning of period	8,029	5,689
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,955)	(4,940)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	99	99
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	5,325

<b>Consolidated statement of cash flows</b>		<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
4.5	Effect of movement in exchange rates on cash held	-	
4.6	<b>Cash and cash equivalents at end of period</b>	<b>6,173</b>	<b>6,173</b>

<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1 Bank balances	2,032	2,888
5.2 Call deposits	4,141	5,141
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
5.5 <b>Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>6,173</b>	<b>8,029</b>

<b>6. Payments to related parties of the entity and their associates</b>	<b>Current quarter \$A'000</b>
6.1 Aggregate amount of payments to related parties and their associates included in item 1	222
6.2 Aggregate amount of payments to related parties and their associates included in item 2	-
<p><i>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.</i></p> <p><i>Salaries, Directors fees and Consulting fees paid to Directors - \$206,547</i></p> <p><i>Payments for Kalgoorlie Office to a Director related entity for the quarter - \$15,000</i></p>	

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

<b>7.</b>	<b>Financing facilities</b> <i>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.</i>	<b>Total facility amount at quarter end \$A'000</b>	<b>Amount drawn at quarter end \$A'000</b>
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	<b>Total financing facilities</b>	-	-
7.5	<b>Unused financing facilities available at quarter end</b>		-
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.		

<b>8.</b>	<b>Estimated cash available for future operating activities</b>	<b>\$A'000</b>
8.1	Net cash from / (used in) operating activities (item 1.9)	(1,955)
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)	(1,955)
8.4	Cash and cash equivalents at quarter end (item 4.6)	6,172
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	6,172
8.7	<b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	3.17
<i>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.</i>		
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		



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

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: 28<sup>th</sup> January 2022

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.

**Ardea Resources Limited Tenement Schedule (WA) as at 31 December 2021**
**Goongarrie Hub**

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E24/196	Goongarrie	100	Live		M24/731	Goongarrie	100	Live	3
E24/209	Goongarrie	100	Live		M24/732	Goongarrie	100	Live	3
E24/211	Goongarrie	100	Pending		M24/744	Goongarrie	100	Live	
E29/934	Goongarrie	100	Live		M24/778	Goongarrie	100	Live	3
E29/1028	Goongarrie	100	Live		M29/167	Goongarrie	100	Live	
E29/1038	Goongarrie	100	Live		M29/202	Goongarrie	100	Live	
E29/1039	Goongarrie	100	Pending		M29/272	Goongarrie	100	Live	
E29/1045	Goongarrie	100	Live		M29/278	Goongarrie	100	Live	
E29/1048	Goongarrie	100	Live		M29/423	Goongarrie	100	Live	
E30/500	Goongarrie	100	Live		M29/424	Goongarrie	100	Live	
E30/501	Goongarrie	100	Live		M29/426	Goongarrie	100	Live	
E30/502	Goongarrie	100	Live		P24/5260	Goongarrie	100	Live	
G29/25	Goongarrie	100	Pending		P24/5328	Goongarrie	100	Live	
L24/239	Goongarrie	100	Live		P24/5329	Goongarrie	100	Live	
L29/134	Goongarrie	100	Live		P24/5265	Goongarrie-Carr Boyd	100	Live	
L29/135	Goongarrie	100	Live		P24/5169	Goongarrie-Windanya	100	Live	
L30/67	Goongarrie	100	Live		P24/5480	Goongarrie-Windanya	100	Live	
L30/68	Goongarrie	100	Live		M24/919	Goongarrie-Scotia	100 Ni rights	Live	6
L16/141	Goongarrie	100	Live		M24/959	Goongarrie-Scotia	100 Ni rights	Live	6
L30/85	Goongarrie	100	Pending		M24/541	Goongarrie	100	Live	
P29/2646	Highway North	100	Pending		P29/2650	Highway North	100	Pending	
P29/2647	Highway North	100	Pending		P29/2651	Highway North	100	Pending	
P29/2648	Highway North	100	Pending		E29/1125	Goongarrie East	100	Pending	16
P29/2649	Highway North	100	Pending		E29/1082	Goongarrie	100	Live	
P24/5528	Goongarrie	100	Pending		E29/1089	Goongarrie	100	Live	

**Goongarrie Hub Expansion  
Siberia**

Tenure	Location	Ardea Interest (%)	Status	Note
E24/203	Siberia	100 non Au-Ag rights	Live	4
E29/889	Siberia	100 non Au-Ag rights	Live	4
M24/634	Siberia	100 non Au-Ag rights	Live	1,4
M24/660	Siberia	100 non Au-Ag rights	Live	4
M24/663	Siberia	100 non Au-Ag rights	Live	4
M24/664	Siberia	100 non Au-Ag rights	Live	4
M24/665	Siberia	90 non Au-Ag rights	Live	2,4
M24/683	Siberia	100 non Au-Ag rights	Live	4
M24/686	Siberia	100 non Au-Ag rights	Live	4
M24/772	Siberia	100 non Au-Ag rights	Live	4
M24/797	Siberia	100 non Au-Ag rights	Live	4
M24/915	Siberia	100 non Au-Ag rights	Live	4
M24/916	Siberia	100 non Au-Ag rights	Live	4
P24/5235	Siberia	100	Live	
P24/5236	Siberia	100	Live	
P29/2484	Siberia	100	Live	
P29/2485	Siberia	100	Live	
P24/5416	Siberia	100	Live	
P24/5417	Siberia	100	Live	
P24/5418	Siberia	100	Live	

**Goongarrie Hub Expansion  
Black Range**

Tenure	Location	Ardea Interest (%)	Status	Note
M24/757	Black Range	100 non Au-Ag rights	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

### 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	16	P25/2455	Kalpini-Bulong	100	Live	
E27/607	Kalpini	100	Live	16	P25/2456	Kalpini-Bulong	100	Live	
E28/1224	Kalpini	100	Live		P25/2457	Kalpini-Bulong	100	Live	
E28/2978	Kalpini	100	Live	16	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	Live	
M28/205	Kalpini	100	Live		P25/2484	Kalpini-Bulong	100	Live	
E27/278	Kalpini-Acra	100 Ni Lat Ore	Live	5	P25/2559	Kalpini-Bulong	100	Live	
E27/438	Kalpini-Acra	100 Ni Lat Ore	Live	5	P25/2560	Kalpini-Bulong	100	Live	
E27/520	Kalpini-Acra	100 Ni Lat Ore	Live	5	P25/2561	Kalpini-Bulong	100	Live	
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	
E25/578	Kalpini-Bulong	100	Live	16	P25/2615	Kalpini-Bulong	100	Live	
M25/59	Kalpini-Bulong	100	Live	16	P25/2650	Kalpini-Bulong	100	Live	
M25/134	Kalpini-Bulong	100	Live	16	P26/4542	Kalpini-Bulong	100	Live	16
M25/145	Kalpini-Bulong	100	Live	16	P26/4543	Kalpini-Bulong	100	Live	16
M25/151	Kalpini-Bulong	100	Live	16	M31/488	Kalpini-Lake Rebecca	100	Pending	16
M25/161	Kalpini-Bulong	100	Live	16	P31/2038	Kalpini-Lake Rebecca	100	Live	16
M25/171	Kalpini-Bulong	100	Live	16	P31/2039	Kalpini-Lake Rebecca	100	Live	16
M25/187	Kalpini-Bulong	100	Live	16	P31/2040	Kalpini-Lake Rebecca	100	Live	16
M25/209	Kalpini-Bulong	100	Live	16	E27/643	Kalpini	100	Pending	16
E27/646	Kalpini	100	Pending	16	E27/647	Kalpini	100	Pending	16
E28/3139	Kalpini	100	Pending		P25/2306	Kalpini-Bulong	100	Live	15, 16
P25/2295	Kalpini	100	Live	16	M25/19	Kalpini-Bulong	100	Live	15, 16
P25/2296	Kalpini-Bulong	100	Live	15, 16	P25/2307	Kalpini-Bulong	100	Live	15, 16
P25/2297	Kalpini-Bulong	100	Live	15, 16	P25/2308	Kalpini-Bulong	100	Live	15, 16
P25/2304	Kalpini-Bulong	100	Live	15, 16	P25/2408	Kalpini-Bulong	100	Live	15, 16
P25/2305	Kalpini-Bulong	100	Live	15, 16	P25/2409	Kalpini-Bulong	100	Live	15, 16

### Yerilla Hub WA Regional

Tenure	Location	Ardea Interest (%)	Status	Note
E39/2188	Yundamindra	100	Live	16
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
E31/1261	Pinjin	100	Pending	
E28/3134	Pinjin	100	Pending	
E26/228	Gidji	100	Pending	16

Tenure	Location	Ardea Interest (%)	Status	Note
E39/1954	Yerilla-Aubils	100	Live	16
M39/1147	Yerilla-Aubils	100	Pending	
E31/1092	Yerilla-Boyce Creek	100	Live	16
E31/1169	Yerilla-Boyce Creek	100	Live	16
E31/1208	Yerilla-Boyce Creek	100	Live	16
E31/1213	Yerilla-Boyce Creek	100	Live	16
M31/483	Yerilla-Boyce Creek	100	Live	16
M31/493	Yerilla-Boyce Creek	100	Pending	16
M31/475	Yerilla-Jump Up Dam	100	Live	16
M31/477	Yerilla-Jump Up Dam	100	Live	16
M31/479	Yerilla-Jump Up Dam	100	Live	16



### Ashburton

Tenure	Location	Ardea Interest (%)	Status	Note
E08/3459	Ashburton	100	Pending	

### Kookynie Gold-Nickel

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

### Perrinvale Nickel-Gold

Tenure	Location	Ardea Interest (%)	Status	Note
E29/1006	Perrinvale	100	Live	16
E29/1078	Perrinvale	100	Live	16

### Mt Zephyr Gold-Nickel

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

### Bedonia Gold-Nickel

Tenure	Location	Ardea Interest (%)	Status	Note	Tenure	Location	Ardea Interest (%)	Status	Note
E63/1827	Bedonia	100	Live	14	E63/1929	Bedonia	100	Live	14
E63/1828	Bedonia	100	Live	13	E63/1974	Bedonia	100	Live	14
E63/1856	Bedonia	100	Live	13	E63/1976	Bedonia	100	Live	14
E63/1857	Bedonia	100	Live	13	E63/1995	Bedonia	100	Pending	14
E63/1928	Bedonia	100	Live	13	E63/2008	Bedonia	100	Live	14

### Ardea Resources Limited Tenement Schedule (NSW) as at 31 December 2021

#### Lachlan Fold Belt – Ardea

Tenure	Location	Ardea Interest	Status	Note
EL 8557	Restdown Tin / Lithium	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. By a Tenement Sale and Purchase Agreement executed on 8 February 2021, Bedonia East was sold to Moneghetti Minerals Limited. Completion is subject to Moneghetti Minerals Limited successfully listing on the ASX in 2022.
14. By a Tenement Sale and Purchase Agreement executed on 25 February 2021, Bedonia West was sold to Larvotto Resources Limited. Completion is subject to Larvotto Resources Limited successfully listing on the ASX in 2021. Larvotto Resources subsequently listed on the ASX on the 6 December 2021.
15. 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. Transfers pending stamp duty assessment by Department of Finance, WA.
16. By way of the Demerger Implementation Deed executed between Ardea Resources Limited, Kalgoorlie Gold Mining Limited, Yerilla Nickel Pty Ltd, Kalgoorlie Nickel Pty Ltd and Ardea Exploration Pty Ltd dated 9 September 2021, certain tenements are to be

transferred to newly listed Kalgoorlie Gold Mining Limited. For certain other tenements, Ardea Resources Limited or its subsidiaries will continue to hold and retain non-gold rights while Kalgoorlie Gold Mining Limited retain gold rights only.

## Interests in Mining Tenements and Petroleum Tenements Acquired or Increased during the December Quarter 2021

### Ardea WA Tenements

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)
L29/146	Goongarrie	Application	100	0
E27/654	Gindalbie	Application	100	0
E27/655	Gindalbie	Application	0	100
L24/248	Siberia	Application	0	100
L24/249	Siberia	Application	0	100
L24/250	Siberia	Application	0	100
L24/251	Siberia	Application	0	100
E08/3459	Ashburton	Application	0	100