

## ASX & Media Release

27 October 2021

## ASX Symbol

ARL

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## Directors

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*Managing Director & CEO*

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*Executive Director*

## Executive Management

Sam Middlemas  
*Company Secretary*

Alex Mukherji  
*Manager Land Access & Compliance*

Mike Miller  
*General Manager Technical Services*

## Issued Capital

Fully Paid Ordinary Shares  
138,034,219

Directors/Employee  
Performance Rights  
4,667,000

ABN 30 614 289 342

# QUARTERLY OPERATIONS REPORT

For the Quarter ended 30 September 2021

## CORPORATE

Ardea Resources Limited (**Ardea** or the **Company**) continues to operate in the Eastern Goldfields of Western Australia (**WA**) with no disruption from COVID-19. The Company priority is progressing its flag-ship battery minerals project, the Kalgoorlie Nickel Project (**KNP**), towards development through systematic advancement of feasibility programs, notably in process water supply and hydrometallurgical flowsheet.

Ardea remains debt free, with a tight capital structure. The Company had \$8M cash-at-bank at the end of the September 2021 Quarter.

The **Kalgoorlie Gold Mining Limited (KalGold, ASX:KAL)** spin-out is nearing completion which will complete consolidation of Ardea's asset portfolio and allow the Company to be solely focussed on advancing the KNP to production.

## DEVELOPMENT

### Kalgoorlie Nickel Project

- **Strategic Partner** feedback has been incorporated into the scope of work for the accelerating feasibility study (**FS**). The FS will demonstrate that the Goongarrie Hub (**Goongarrie**) is one of the most significant nickel-cobalt projects in the world that can ensure sustainable and ethical battery mineral supply from the premium operating jurisdiction in the world, WA.
- **KNP Feasibility Study work streams on the Goongarrie Hub:**
  - 39 diamond drill holes for 3,203m completed for test material for hydrometallurgical test-work aiming to optimise a low-carbon flow sheet.
  - Four water production bores and pump tests completed to support Ardea's 3.5GLpa water abstraction licence application.
  - Gap Analysis Study with international engineering consultant Wood nearing completion, to finalise the KNP flow sheet and consolidate all KNP data to feed into the Definitive Feasibility Study (**DFS**).
  - Ongoing project engagement with supportive Community stake holders and with State and Commonwealth statutory authorities.
  - Industry Partnership work continues with the Future Battery Industry Co-operative Research Centre (**FBICRC**) at Curtin University and CSIRO.

## EXPLORATION

### WA Nickel Sulphide, Critical Minerals and Gold

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

- **Nickel Sulphide** – Emu Lake drilling to continue in the December Quarter to follow-up on diamond drill hole AELD0002 massive nickel sulphide:<sup>1</sup>
  - **1.1m @ 4.78% Ni**, 0.16% Cu, 0.47g/t Pt, 0.20g/t Pd from 366.9m downhole, within a broader zone of **4.8m @ 1.44% Ni** from 365.9m depth.
  - A 500m deep diamond core hole has been planned to test a DHEM target down plunge of AELD0002.

<sup>1</sup> Ardea ASX release 10 June 2021.

# September 2021 Quarter

## Environmental, Social and (Corporate) Governance

Ardea and importantly the Original Equipment Manufacturers (**OEM**) with whom it deals all operate to ensure Environmental, Social and (Corporate) Governance (**ESG**) considerations are 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 green-house gas emission per tonne of nickel equivalent production.

In recent years, Ardea has contributed technical analysis to groups advocating for net zero by 2050. The KNP is included in the Commonwealth Government *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, notably through its FBICRC membership.

All project development is predicated on minimising carbon emissions and being able to contribute towards achieving the State of Western Australia's aspiration of net zero emissions by 2050. 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.

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. This is managed totally independently of Ardea. A second fund was established by Ardea during the Quarter to support Eastern Goldfields community causes, with two groups assisted during the Quarter.

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.

## Nickel Sector Commentary

Demand for nickel continues to grow at record rates and is being driven by the Lithium Ion Battery (**LIB**) supply chain where nickel is an essential component of NCM (nickel-cobalt-manganese) batteries, as well as traditional uses such as stainless steel (Figure 1). Current world nickel production levels are not expected to keep pace with demand with all currently identified laterite and sulphide nickel deposits that can ensure sustainable and ethical mineral supply expected to be developed in the years ahead to meet this demand. Without the development of significant nickel resources like the KNP, there can be no battery revolution.

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 a prime position to provide essential supplies of sustainably sourced nickel and cobalt, along with other Critical Minerals (notably scandium and the REEs neodymium and praseodymium). Based on projected demand (Figure 1), by 2040, the World would consume the full KNP nickel resource equivalent within some 18 months.

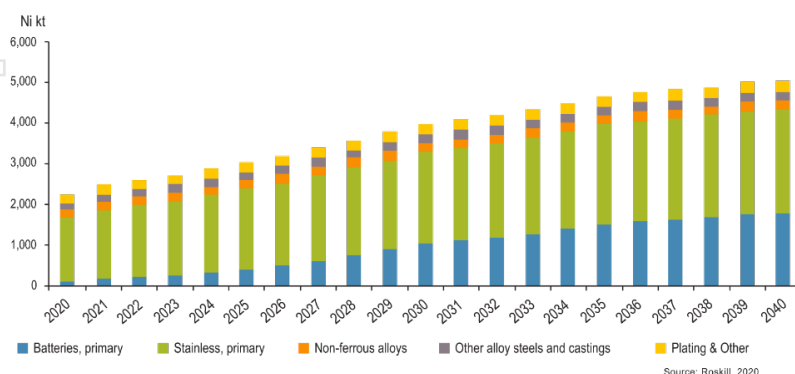


Figure 1: Total primary nickel demand estimate by first use sector from 2020 to 2040 (kt nickel), after Roskill 2020.

**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 2). Resources from the Goongarrie and Highway deposits are planned to be the base load feed for a High Pressure Acid Leach (HPAL) and Atmospheric Leach (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. 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 3). There are two port options, these being Kwinana and Esperance, that are also serviced by the road and rail network.

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 all 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 essential.

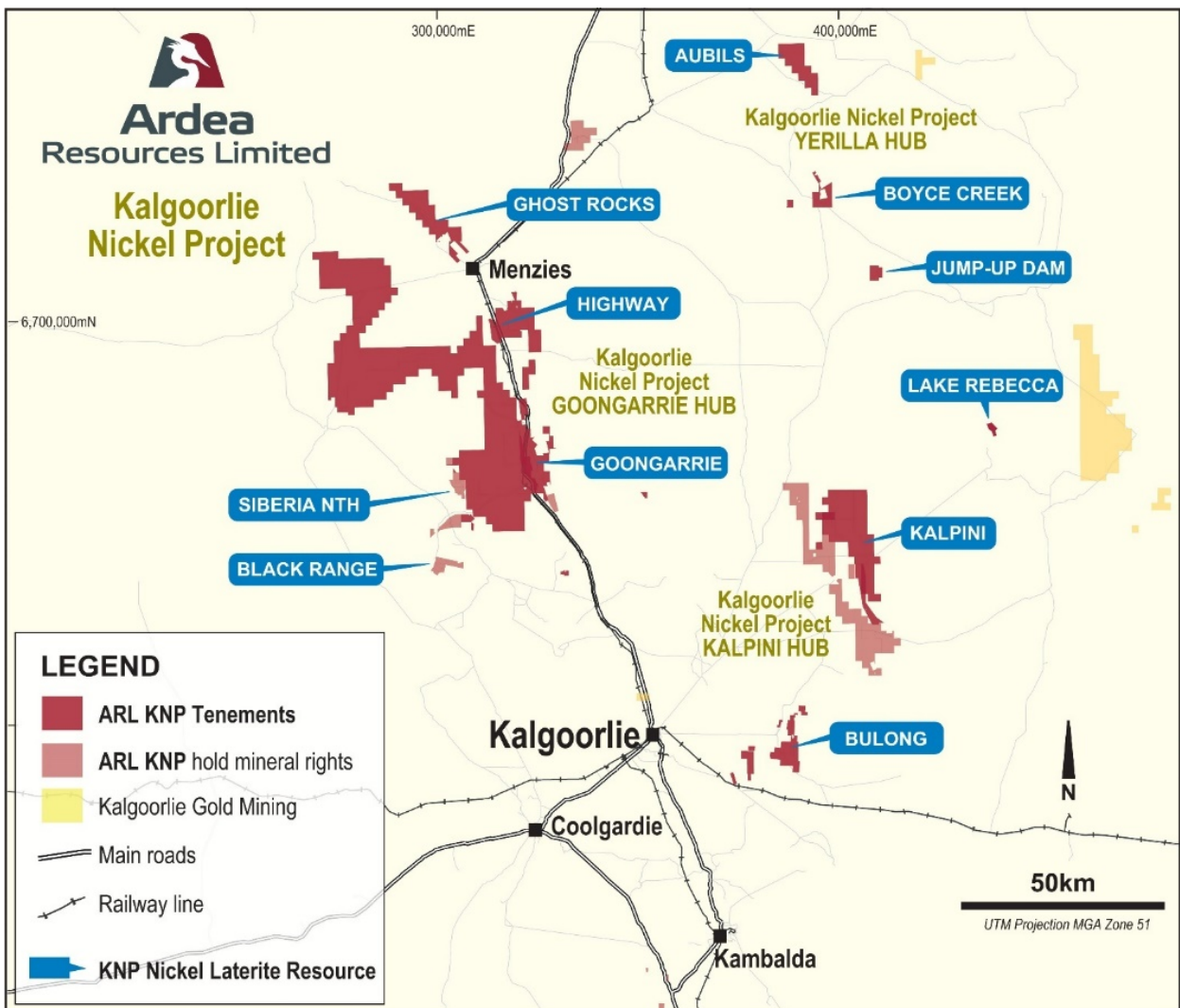


Figure 2: KNP location and infrastructure plan. Projection GDA94 MGA94 Zone 51.



Figure 3: Aerial image of Ardea's Goongarrie Hub.

Photo looking north showing road and rail infrastructure within the project and the benign semi-arid woodland environment, ideal for project development and rapid revegetation post mining.

The train in the photo is returning from Leonora with nickel sulphide concentrates destined for the developing Kwinana Battery Hub.

Contrast this photograph with nickel laterite projects in tropical rainforests adjoining the Pacific Ocean, or in eastern Australia food production centres.

### Feasibility Programs

The KNP is owned 100% by Ardea and is undergoing a Feasibility Study for a HPAL and AL processing operation initially producing Mixed Hydroxide Precipitate (**MHP**). Potentially upgrading to Precursor Cathode-active Material (**PCAM**) in stage 2 as an ethical and sustainable supply chain for the LIB sector.

The Goongarrie Hub Material Types study completed during the Quarter 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, with consequent increase in steam and thus energy production. This allows a material de-carbonising of the project which is already low by industry standards (Figure 4 and 5) and will continue to be reduced as part of ongoing DFS work.

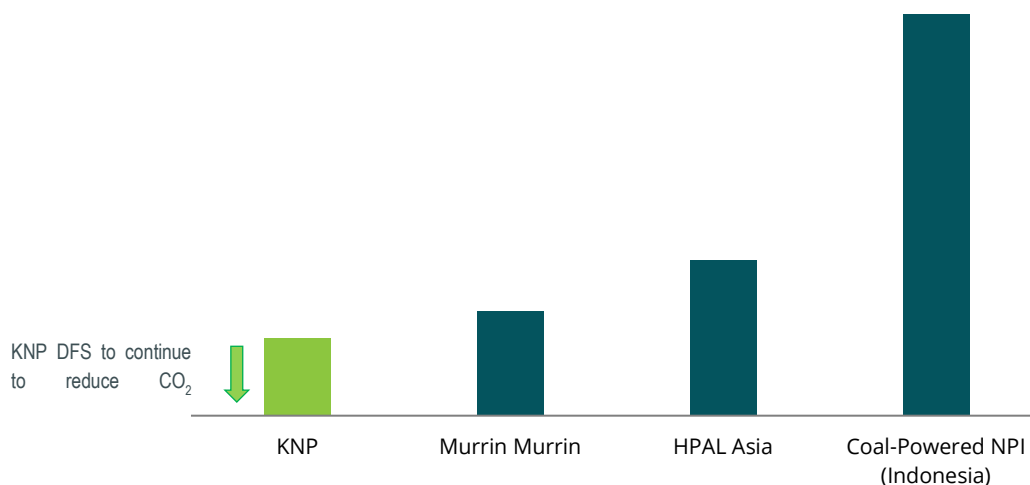


Figure 4: Indicative CO<sub>2</sub> emissions intensity for laterite nickel production per kg of nickel production. After WoodMac Nickel Industry Costs and Ardea internal analysis.

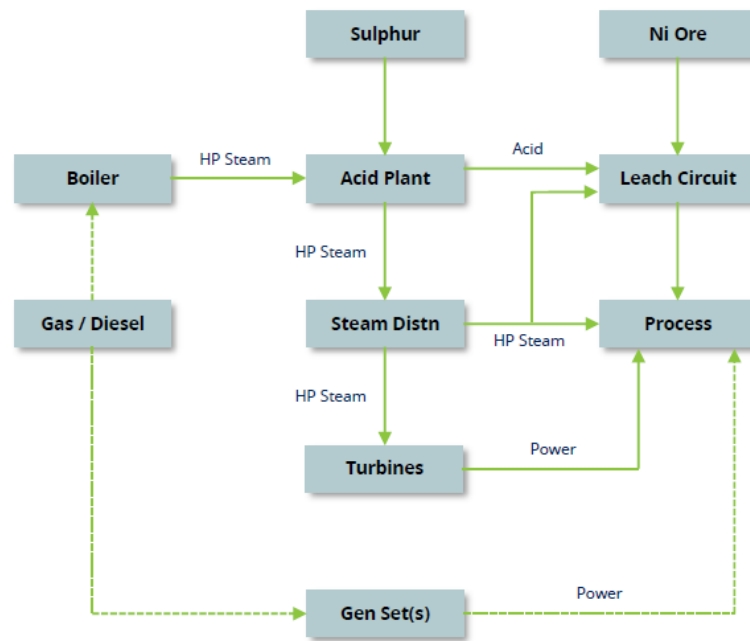


Figure 5: KNP Acid plant – Steam Power Block Flow Diagram. Heat generated from on-site acid plant will be used for generating electrical power via steam turbines.

### Gap Analysis Study

The Ardea technical team continue to work with global consulting engineering firm, Wood, to complete a Gap Analysis Study (**GAS**), reviewing and consolidating all KNP feasibility data, including Ardea’s successful Goongarrie Prefeasibility Study (ASX release 28 March 2018) and Expansion Study (ASX release 24 July 2018).

The considerable feasibility work undertaken by Ardea since the 2018 studies were completed, have culminated in the definition of an enhanced base case flow sheet (Figure 6) being assessed as part of the GAS and designed to be carried forward into the DFS. The GAS study will be completed during the December Quarter 2021 and along with metallurgical test-work results, will lock in a final scope of work to complete the DFS.

As well as the Ardea 2018 KNP studies, the A\$34.5M Prefeasibility Study (**PFS**) completed by former KNP joint venture partner Vale Inco in 2009 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 programs.

Vale Inco bench-scale test-work also returned favourable nickel-cobalt recoveries from Atmospheric Leach (**AL**) 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 then withdrew from their joint venture.

Subject to current metallurgical test-work results and independent review from Wood, Ardea intends to include an AL circuit at Goongarrie, as in addition to providing additional nickel-cobalt production, the AL circuit will also facilitate acid balance, with excess steam from the acid plant used to generate site power and in so doing significantly minimise site carbon emissions.

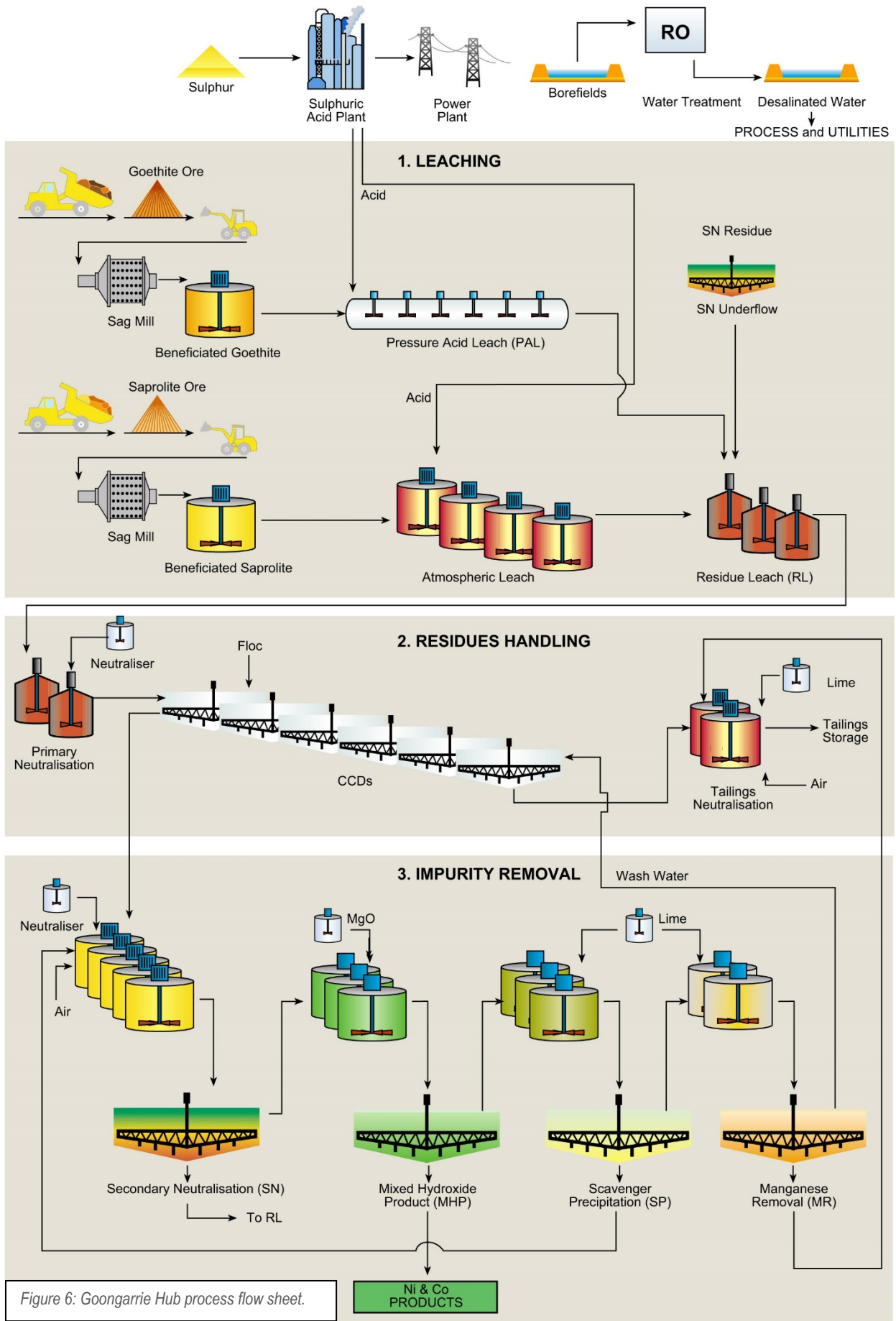


Figure 6: Goongarie Hub process flow sheet.

## 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 as a basis for pit optimisations, metallurgical flow sheet and engineering designs.

Most importantly, Material Types are now segregated into HPAL feed, AL feed and Neutraliser, based solely on XRD-generated mineralogy.

Drill core for current metallurgical test-work is selected on 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 estimate of 561Mt will be quite 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	
<b>Goongarrie</b>	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	
	<b>Goongarrie Subtotal</b>		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>				
<b>Siberia</b>	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	
	<b>Siberia Subtotal</b>		Indicated	19	0.65	0.070	126	13			
		Inferred	144	0.66	0.041	943	59				
		<b>Combined</b>	<b>163</b>	<b>0.66</b>	<b>0.045</b>	<b>1,070</b>	<b>73</b>				
<b>KNP Goongarrie Hub</b>	<b>TOTAL</b>	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>				
<b>Bulong</b>	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	
	<b>Bulong Subtotal</b>	Indicated	16	1.06	0.055	169	9				
		Inferred	38	0.81	0.052	309	20				
		<b>Combined</b>	<b>54</b>	<b>0.88</b>	<b>0.053</b>	<b>477</b>	<b>29</b>				
<b>Hampton</b>	Kalpini	Inferred	75	0.73	0.044	550	33	OK	Snowden	2004	
	<b>Hampton Subtotal</b>	Inferred	75	0.73	0.044	550	33				
<b>KNP Kalpini Hub</b>	<b>TOTAL</b>	Indicated	16	1.06	0.055	169	9				
		Inferred	114	0.76	0.047	859	53				
		<b>Combined</b>	<b>130</b>	<b>0.79</b>	<b>0.048</b>	<b>1,028</b>	<b>62</b>				
<b>Yerilla</b>	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	
	<b>KNP Yerilla Hub TOTAL</b>		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>				
<b>KNP TOTAL</b>		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>GRAND TOTAL</b>		<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 Electric Vehicle (**EV**), Static Storage Battery (**SSB**) and wind-turbine sectors.

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

- Nickel-manganese-cobalt (**NMC**) content in LIB including precursor cathode-active material;
- EV electric motor REE 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 Ni-Co 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.

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 archived Ardea drilling sample pulps for re-assay for Critical Minerals (notably REE co-products and fertile nickel sulphide multi-element ratios for PGEs).

Table 3 – Goongarrie Indicative scandium and REE intersections associated with nickel laterite mineralisation (ASX releases 15 February & 16 June 2021).

Pit Area	Drill Hole	Interval m	Width m	Ni %	Co %	Mn %	Sc ppm	Y ppm	Ce ppm	La ppm	Nd ppm	Pr ppm
Highway	HWRC0268	4-6	2	2.40	0.224	0.12	100	250	1230	901	685	193
Elsie North	AGSR001	14-18	4	0.85	0.21	0.98	43	6	968	10	14	4
Pamela Jean	AGSR170	22-24	2	0.63	0.05	0.24	43	318	32	216	340	75
Patricia Anne	AGSR392	24-26	2	0.49	0.07	0.11	52	215	1120	260	341	87
Patricia Anne	AGSR430	8-14	6	1.05	0.77	4.60	14	57	447	161	135	38
Pamela Jean	GSDD004	15-21	6	0.66	0.03	0.07	161	6	15	4	4	1
Pamela Jean	GSRC986	29-32	3	0.81	0.04	0.10	8	72	101	103	110	28
Canegrass South	ABFR012	22-24	2	0.63	0.01	0.13	122	14	34	7	8	2
Canegrass South	ABFR014	26-28	2	0.51	0.05	0.52	128	8	43	5	7	2
Mavis North	ABFR061	20-28	8	0.24	0.05	0.76	37	190	315	70	110	26
Mavis South	ABFR164	12-16	4	0.40	0.07	0.36	36	8	1125	12	16	5

## 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 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 neodymium, praseodymium and cerium) in parallel circuit with scandium (using Ion Exchange).

An example of the indicative scandium and REE intersections associated with nickel laterite mineralisation within the Goongarrie and Highway deposits are shown above (Table 3). Further work is continuing on other deposits within the KNP to help determine Critical Mineral potential and the viability of being able to extract these from the HPAL/AL Pregnant Liquor Solution (**PLS**) as by-products.

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

Historic drill assay pulps continue to be systematically re-assayed throughout the KNP on a nominal 160mx80m collar spacing. The main projects reviewed during the Quarter were Highway, Siberia, Kalpini, Boyce Creek, Yerilla and Bulong. Pulp assay results will continue to be reviewed and interpreted, with appropriate follow-up work planned.

### **FBICRC**

The Future Battery Industry Co-operative Research Centre (**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 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 for the LIB sector and sustainable and ethical supply from the best-regarded operating jurisdiction in the world, Australia, led by WA.

Ardea is pleased to advise that the Future Battery Industries Cooperative Research Centre (**FBICRC**) has signed a contract valued at \$18M to design and commission the FBICRC's flagship Cathode Precursor Production (**PCAM**) Pilot Plant in Western Australia.

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 present generation of cathode chemistries for the batteries used in electric vehicles.

Installation and commissioning of the FBICRC Cathode Precursor Production Pilot Plant is to commence within Q1 2022 and will add value in downstream processing within Australia for the global electric vehicle market.

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 and assay of these samples has commenced with metallurgical composites in the process of being compiled and sent to a Perth metallurgical laboratory.

As well as conventional HPAL, the metallurgical test-work program will investigate 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 site energy balance. Other test-work will include PCAM metal recovery, HPAL, AL and Sc-REE refining.

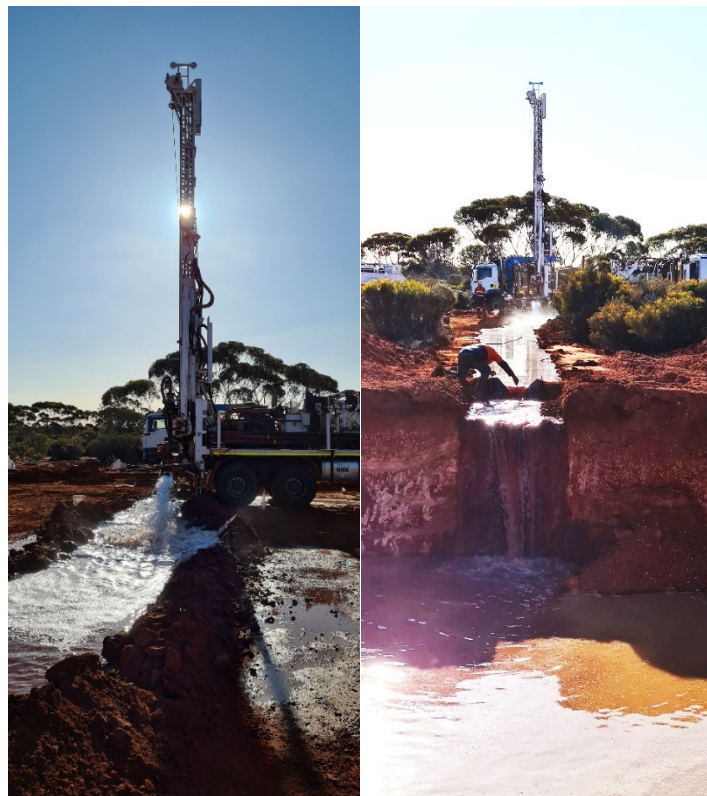
### Hydrogeology

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 2GLpa from fractured bedrock and the second application is for a draw of 1.5GLp/a from palaeo-channel sands.

During the Quarter and extending into October 2021, four water production bores were completed to support the two applications for groundwater extraction licences (Figure 7).

Bulk sample material for optional extra metallurgical test-work has also been stockpiled from the hydrogeological drill spoil.



*Figure 7: Water bore drilling at Goongarrie South showing water flow of 30l/second and V-notch weir test.*

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

Ardea's US-based nanofiltration 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.

## 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 (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.

The Great Western Woodlands contains some 3,500 plant species (half of which are endemic), some 49 mammal species, 14 frog species, 138 reptile species and 215 bird species, all having flourished alongside world-class mining operations for the last 130 years.

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).

The KNP’s benign and manageable environmental footprint contrasts strongly with many tropical laterite projects. Such nickel laterite projects that are classified as a “wet tropical laterite” require marine tailings or valley tailings storage with consequent environmental risk (including seismic thixotropy). Additionally, wet tropical laterite production areas commonly involve non-restorable rain forest habitat destruction, which is justifiably a total anathema for OECD battery metal end-users.



Figure 8: Metallurgical test-work diamond drilling in progress at Highway during the Quarter. Note the extensive Great Western Woodlands flora.

## 2. WA NICKEL SULPHIDE AND GOLD PROJECTS

Ardea’s extensive and strategic land holding in the Eastern Goldfields of WA covers over 4,300km<sup>2</sup> and in addition to the globally significant nickel-cobalt-scandium KNP resource, is highly prospective for nickel sulphide, Critical Minerals and gold (Figure 2 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 some constrained by insufficient 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 relative 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.

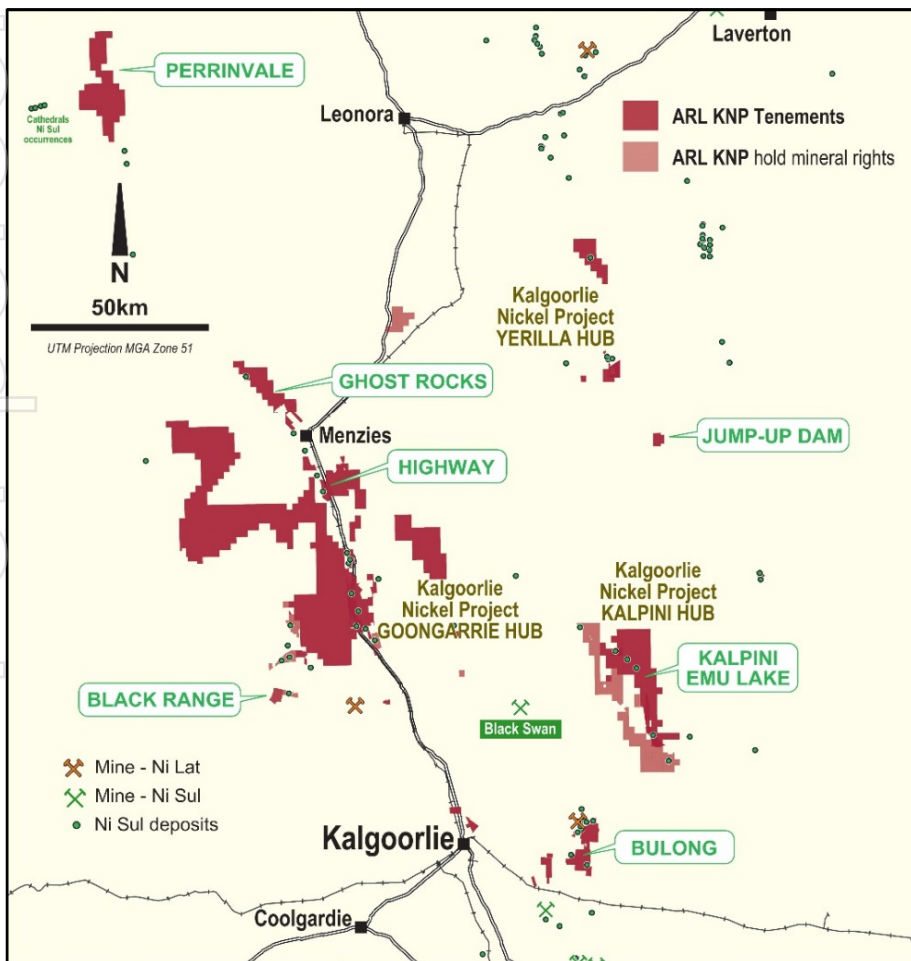


Figure 9: KNP Nickel Sulphide prospect plan. Projection: GDA94 MGA Zone 51.

**Emu Lake Nickel Sulphide and Gold Prospect**

The Kalpini Nickel Project extends over 240km<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, Emu Lake, is located 70km north-east of Kalgoorlie (Figure 9). This strategic tenement package contains an East and West Ultramafic belt each with 20km of strike of prospective nickel sulphide 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 parallel komatiite volcanic belt.

Ardea drilling (ASX release 10 June and 13 July 2021) has intersected a semi-massive basal contact nickel sulphide occurrence in diamond drillhole AELD0002 and returned assays of:

- **1.1m @ 4.78% Ni, 0.16% Cu, 0.47g/t Pt, 0.20g/t Pd from 366.9m downhole consisting of semi-massive and matrix-style nickel sulphides, within a broader zone of:**
- **4.8m @ 1.44% Ni and 0.09% Cu, 0.20g/t Pt, 0.09g/t Pd from 365.9m depth.**

This nickel sulphide intercept (Figure 10) demonstrates the prospectivity of this new more westerly ultramafic position that has received little attention in the past. Most previous drilling has been concentrated on the Binti Main Zone to the north and east and which has tended to have intersected remobilised stringers of nickel sulphide rather than massive in situ nickel sulphide as in AELD0002.

During the Quarter, Ardea completed a 250m RC hole up plunge of the AELD0002 intersection. Assay results are still being interpreted but it appears that the komatiite lava channel hosting the sulphides in AELD0002 has pinched out up-dip. A diamond drill hole has been planned to test down plunge of the nickel sulphides intersected in AELD0002 and has been designed to test the centre of the downhole electromagnetic (DHEM) conductor, defined from the DHEM survey of AELD0002 (Figure 10). This hole will be completed once a core rig becomes available.

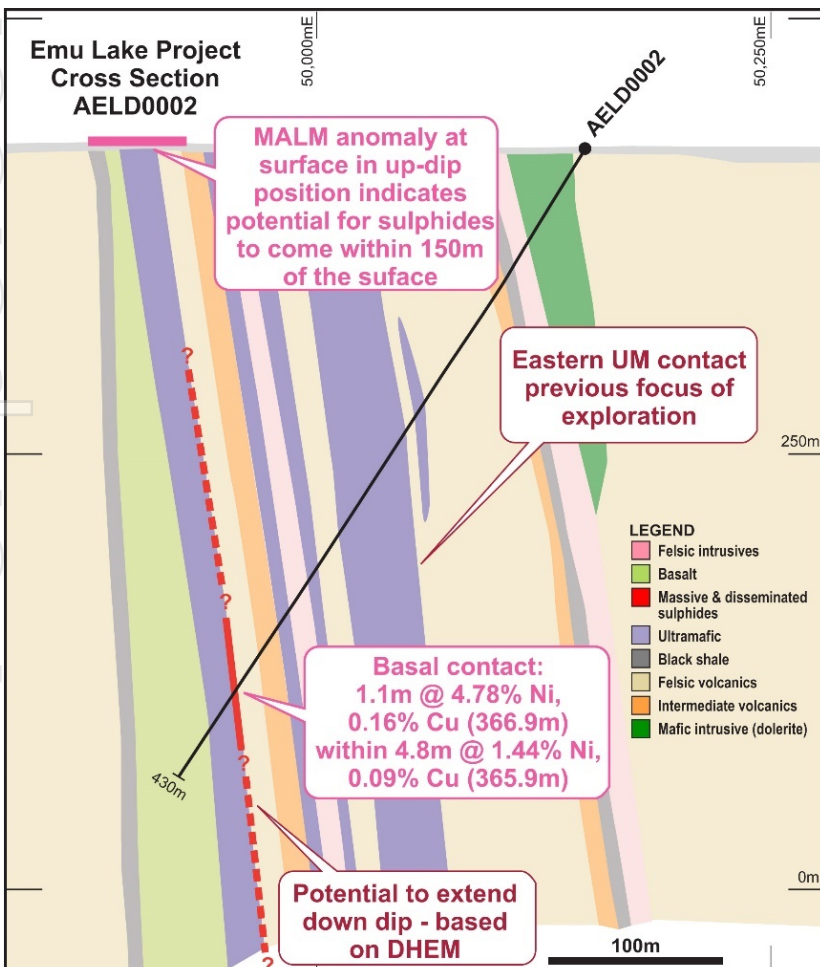


Figure 10: Emu Lake cross section looking north showing trace of drill hole, AELD0002, and interpreted steeply overturned geology with the new nickel sulphide zone on the western ultramafic unit. The DHEM conductor defined down plunge of AELD0002 will be drill tested once a diamond drill rig has been secured.

**MLEM Surveys**

Two surface moving loop electromagnetic (MLEM) anomalies defined earlier in the year on the Eastern Ultramafic unit at Kalpini (Figure 11 Targets A and C) have been geophysically modelled as relatively short strike length conductive plates directly west of the nickel laterite drilling where little surface data exists.

The southern anomaly is associated with a strong copper anomaly in the nickel laterite drilling in this area with results up to 0.13% copper over 2m in two drillholes, 80m apart along strike. A 120m RC hole was drilled during the Quarter to test this target but could not get through saprolite clays to the design depth. A second RC hole was drilled to 108m but also could not penetrate the sticky clay zone. Once a core rig becomes available to test the DHEM nickel sulphide target down plunge of AELD0002, a diamond tail can be used to extend one of the abandoned RC holes to the target depth to test the MLEM target. Other nickel sulphide targets in the broader Kalpini area are also shown below and highlight the large number of targets and prospectivity of the Kalpini Project.

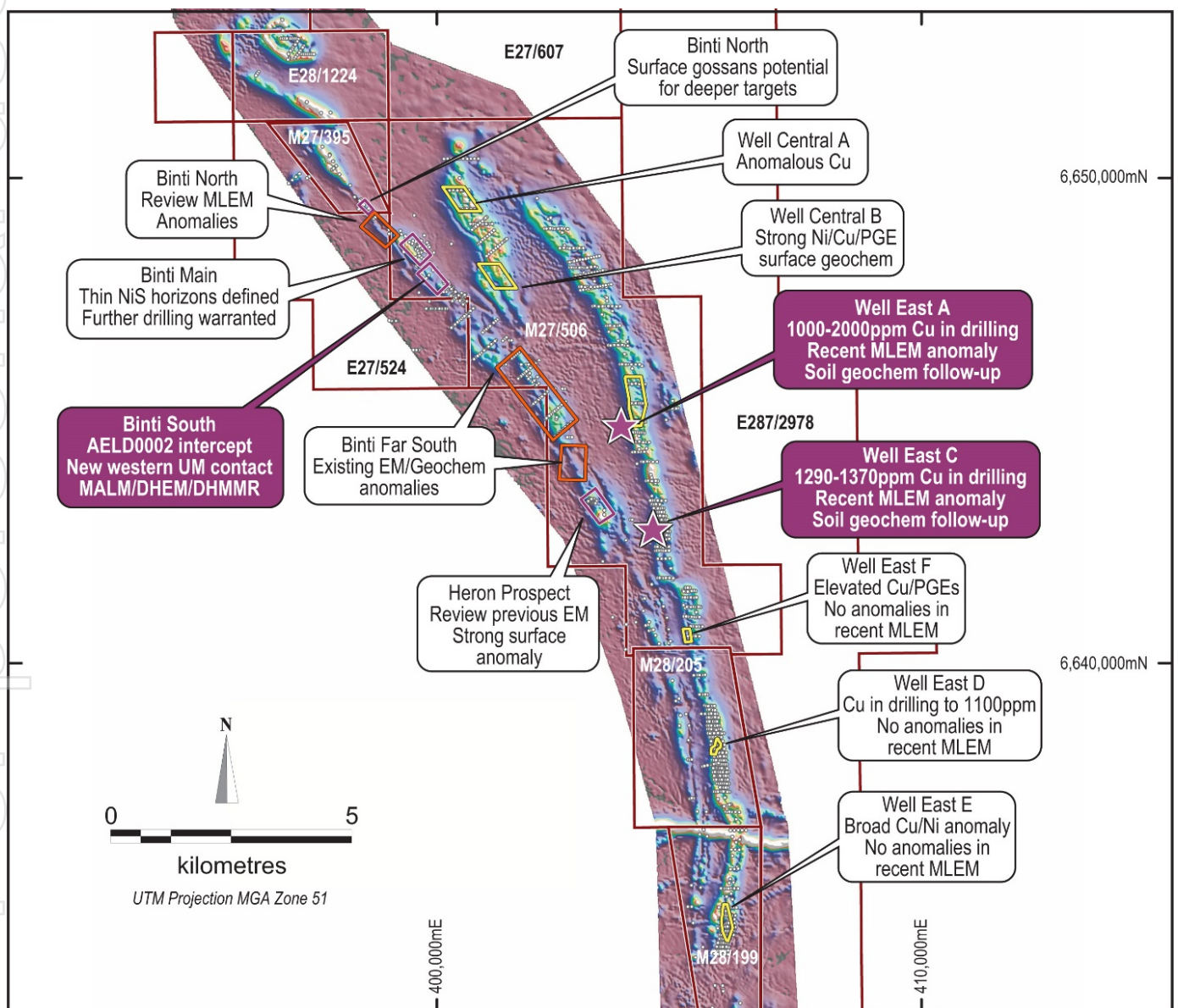


Figure 11: Nickel sulphide targets in the Emu Lake and broader Kalpini project area. Showing the two recent MLEM targets on the Eastern Ultramafic and the location of the recent significant nickel sulphide drilling intercept (AELD0002). MGA Zone 51 projection.

## Bardoc Tectonic Zone Nickel Sulphide

Exploration to unlock the nickel sulphide potential throughout Ardea's ground holding in the Bardoc Tectonic Zone (**BTZ**) continued during the Quarter with the assistance of a dedicated nickel sulphide consultant expert and CSIRO. 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.

## Highway Nickel Prospect

The Highway Prospect, located 110km north of Kalgoorlie Boulder and 30km north of Goongarrie (Figure 2 and 9), is within a wholly owned and granted mining lease which hosts the Company's Highway nickel laterite resource (92Mt at 0.69% nickel and 0.038% cobalt, for 633kt nickel and 35kt cobalt)\*.

Magmatic nickel sulphide has been identified in historic RC drilling near the basal contact of the Walter Williams Formation (**WWF**). An historic MLEM survey in 2009 identified two subtle conductors along strike from the disseminated sulphide occurrence, however, drilling did not intersect massive sulphides. The fact that this portion of the WWF is fertile for nickel sulphides is significant with little or no focus on such occurrences over the last 20 years. It also raises the possibility of nickel sulphide occurrences beneath the Goongarrie tenements to the south.

RC hole AHIR0001 was completed to a depth of 259m during the June 2021 Quarter testing an IP-chargeability anomaly near the basal (western) contact of the WWF near where historical CRA drilling recorded disseminated sulphides in the ultramafic units of the WWF. Due to extensive ground water pressure the hole could not reach the target depth. The RC hole was extended during the Quarter with a diamond tail to ensure that the IP-chargeability anomaly was tested. No significant assays were returned.

## Black Range Project

The Black Range Project is located 65km north-west of Kalgoorlie Boulder and contains a 5km zone of the Ora Banda Sill mafic/ultramafic complex enriched in nickel, cobalt, copper, scandium and PGE metals (Figures 9).

The Ardea Black Range resource comprises 19.2Mt at 0.68% nickel and 0.09% cobalt, for 130.7kt nickel and 17.8kt cobalt, as well as 8.70Mt at 65.6g/t scandium for 570,000kg scandium, and 6.55Mt at 0.33g/t Pt and 0.21g/t Pd for 70,300oz platinum and 44,000oz palladium†.

Past Ardea drilling programs have delineated a zoned lateritic distribution of nickel, cobalt, copper, scandium and PGE metals, including: ABR0001/4-20m, 16m at 0.24% Ni, 0.11% Cu, 0.29g/t Pd, 0.38g/t Pt; ABR0016, 2-18m, 16m at 0.45% Ni, 0.17% Cu, 0.15g/t Pd, 0.26g/t Pt; and ABR0021, 4-24m, 20m at 0.18% Ni, 0.09% Cu, 0.29g/t Pd, 0.36g/t Pt.

This geochemical signature is consistent with a sulphidic nickel metal source and is different to the usual KNP nickel laterite geochemistry. The target zone is located at a specific rock unit contact within the Ora Banda Sill layered mafic complex (**LMC**) with potential for Nova or Julimar style intrusion-related nickel-copper-PGE sulphides.

During the June Quarter, RC drillhole ABR0028 was completed to 271m testing coincident IP-chargeability and surface EM anomalies. The hole intersected the middle portion of the Ora Banda Sill with mafic intrusive rocks (gabbro/dolerite) to 90 metres followed by mixed peridotite and pyroxenite intrusive rocks with traces of pyritic sulphides to 271m. Traces of disseminated pyritic sulphides were observed through much of the hole, but this is not considered sufficient to explain the IP anomaly. The hole steepened from -63° to -69° when it was expected to lift and this resulted in it passing to one edge of the IP anomaly, rather than in the centre. No significant assays were returned and the source of the IP anomaly and anomalous laterite nickel-copper-PGE geochemistry remains unaccounted for.

\* Ardea ASX Release 16 June 2021.

† Ardea ASX Release "Black Range cobalt, nickel, scandium and platinum/palladium resources" (31 October 2017).



### Ardea Gold Strategy

Ardea's focus and priority remains the KNP, with no dedicated gold exploration being undertaken. Corporate opportunities to monetise the Big Four Gold resource continue to be considered.

A number of gold rights and tenements are being transferred to dedicated gold exploration spin-out Company, Kalgoorlie Gold Mining (ASX:KAL) to complete Ardea's project consolidation (ASX release 24 August 2021).

## 3. CORPORATE

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

Ardea is close to completing the Kalgoorlie-focussed gold spin-out, Kalgoorlie Gold Mining Limited (**KalGold**). The KalGold prospectus was lodged on 17 September 2021.

On 25 October 2021, Ardea was notified by the Joint Lead Managers, amicaa Advisors Pty Ltd and MST Financial Services Pty Ltd that the minimum threshold for the capital raising of KalGold (\$7M) had been exceeded and that this condition is now satisfied. Also at the Ardea Extraordinary General Meeting held on 25 October 2021, all resolutions were passed approving the spin-out process which is on schedule to be completed during the December 2021 Quarter, subject to other regulatory conditions as previously announced.

This is the last remaining corporate transaction to be completed to ensure Ardea's sole focus is the flagship, KNP battery minerals project.

### Strategy

The driving Company priority is KNP nickel-cobalt-scandium laterite project development to produce battery minerals for the LIB supply chain to further advance the transition to a low carbon future. Complementary development opportunities in nickel sulphide, Critical Minerals (notably REE) and gold (for short-term cash flow and long-term infrastructure sites) will also be considered. The starter KNP development project is the Goongarrie Hub to capitalise on the premium goethite ore type and infrastructure-rich location.

### Finance

The Company's cash position was \$8.0M at Quarter end with no debt.

Issued capital as at, 30 September 2021 was 138,034,219 shares, with 4,667,000 Performance Rights.

### Summary of Expenditures for the Quarter

During the Quarter, the Company incurred a total net expenditure from operating activities of \$2,985k. This was made up of \$1,884k expended on exploration and evaluation activities, \$348k on development activities, \$119k on staff costs and \$179k on administrative and corporate costs with the balance on minor items. Funds received during the Quarter included interest of \$7k.

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 \$22.6k 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 December 2021 Quarter, Ardea will focus upon the following programs.

##### Kalgoorlie Nickel Project

Ardea is well funded and will continue to work with industry groups and State and Federal Government to ensure project development is predicated on ensuring sustainable and ethical standards.

##### Strategic Partner Process

- Continue active discussions and accelerate the Strategic Partner search process in light of the 2021 Goongarrie Hub resource updates and accelerated DFS work streams which have reiterated the global significance of the KNP to be an industry-leading supplier of battery minerals.

##### Stake holder Engagement

- Community consultation, notably with the City of Kalgoorlie Boulder and Shire of Menzies, and in particular with 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 Highway scandium resource update and then commence Siberia North, Kalpini, Bulong, Lake Rebecca, Yerilla and other satellite nickel-cobalt prospects within hauling distance of the Goongarrie Hub to define the optimum mine plan which includes maximising HPAL/AL nickel-cobalt feed grades and mineralised neutraliser utilisation aimed at minimising carbon emissions.

##### 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 already defined. Now that the metallurgical test-work drilling program has been completed, the bench-scale test-work program is commencing. This work is aimed at minimising the project development footprint and carbon emissions and adhering to Western Australia's world-class safety, health, environmental and operating standards which ensures sustainable and ethical production.

##### KNP Feasibility

Complete the Gap Analysis Study being undertaken by Wood and incorporate the learnings from the metallurgical drilling, mineralised neutraliser and Critical Mineral test-work to 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 Mineral and Gold Projects

Review of geological settings favourable for Critical Minerals and nickel sulphide mineralisation will continue. This work will continue to be cost effectively undertaken using Ardea's extensive database, sample drill pulps available for re-assay at the West Kalgoorlie office and detailed geophysical datasets.

Opportunities also continue to be assessed to monetise selected gold assets that will not be part of the KalGold spin-out.

##### Investor Relations

During the Quarter Ardea presented at the Australian Nickel Conference in Perth. The event was very well attended, even with the WA COVID-19 border restrictions, reflecting the strong demand for nickel to meet the needs of the battery revolution. The YouTube Ardea presentation from Managing Director, Andrew Penkethman, can be viewed at: <https://youtu.be/oY53 TwkIA>

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**

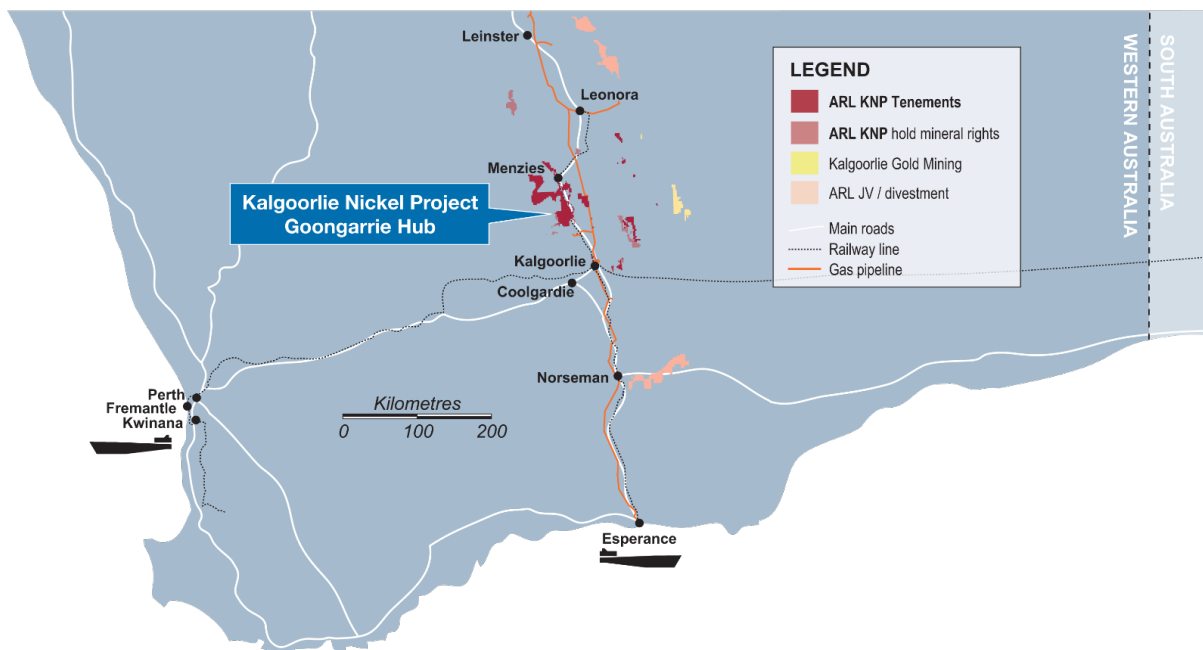
Managing Director and Chief Executive Officer

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 Kalgoorlie Nickel Project (**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 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.



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**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. Kalgoorlie Nickel Project on 21 October 2013 and 31 July 2014, October 2016, 2016 Heron Resources Annual Report and 6 January 2017.
2. KNP Cobalt Zone Study on 7 August 2017, PFS 28 March 2018 and Expansion Study 24 July 2018.
3. 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.
4. CSIRO research project commences to define gold behaviour within the critical mineral deposits of the Goongarrie Nickel Cobalt Project, 12 August 2020.
5. Ardea Annual Report 2020, 29 September 2020.
6. Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP, 30 September 2020.
7. Ardea commences nickel sulphide core drilling at Emu Lake, 30 November 2020.
8. Tenement Sale and Purchase Agreement signed with Moneghetti Minerals over Bedonia East, 9 February 2021.
9. GNCP High Grade Resource - 60 million tonne at 1.0% Nickel Sustainable Long-life Battery Metal Resource Confirmed, 15 February 2021.
10. Tenement Sale and Purchase Agreement signed with Larvotto Resources over Bedonia West, 26 February 2021.
11. Ardea confirms Nickel Sulphide Drill Target within the Kalgoorlie Nickel Project, 2 March 2021.
12. Emu Lake Nickel Sulphide Target: Diamond Core Drilling Commences, 30 March 2021.
13. Compelling nickel-copper-platinoid sulphide drill target defined at Black Range, 19 April 2021.
14. Basal contact nickel sulphide intersected at Ardea's Emu Lake, 27 April 2021.
15. KNP Highway and Black Range - Nickel Sulphide Drilling Commences, 21 May 2021.
16. CSIRO/Ardea research at Goongarrie BTZ – insights for nickel sulphide and gold targets, 27 May 2021.
17. Kalgoorlie Nickel Project – Feasibility Study Underway, 31 May 2021.
18. Semi-massive nickel sulphide intercept at Emu Lake, 10 June 2021.
19. Highway Nickel Deposit - Mineral Resource Estimate, 16 June 2021.
20. Cleansing notice and Application for quotation of securities, 6 July 2021.
21. Nickel Sulphide Exploration Update - Emu Lake, 13 July 2021.
22. Kalgoorlie Gold Mining Limited: Spin-out of Ardea's Kalgoorlie-based gold assets – 24 August 2021.
23. Kalgoorlie Gold Mining Limited Prospectus, 20 September 2021.
24. Annual Report 2021 – 24 September 2021.
25. FBICRC signs contract for \$18M flagship Cathode Precursor Production Pilot Plant, 22 October 2021.
26. KalGold Update – Minimum Funding Threshold Achieved – 25 October 2021.
27. Results of General Meeting of Shareholders - 25 October 2021.

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 Exploration Results and Resource Estimates for the Kalgoorlie Nickel Project 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.

The exploration and industry benchmarking summaries are based on information reviewed by 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")

30 September 2021

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(1,884)	(1,884)
(b) development	(348)	(348)
(c) production	-	-
(d) staff costs	(119)	(119)
(e) administration and corporate costs	(179)	(179)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	7	7
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	(34)	(34)
1.8 Other (provide details if material) – Kalgoorlie Gold costs to be repaid on IPO	(428)	(428)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(2,985)</b>	<b>(2,985)</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	-	-

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)	-	-
<b>2.6</b>	<b>Net cash from / (used in) investing activities</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	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)	(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>5,325</b>	<b>5,325</b>
<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>	<b>2,340</b>	<b>2,340</b>
4.1	Cash and cash equivalents at beginning of period	5,689	5,689
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,985)	(2,985)
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)	5,325	5,325

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

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	<b>Cash and cash equivalents at end of period</b>	<b>8,029</b>	<b>8,029</b>

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	2,888	3,548
5.2	Call deposits	5,141	2,141
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>8,029</b>	<b>5,689</b>

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	229
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 - \$206,547*  
*Payments for Kalgoorlie Office to a Director related entity for the quarter - \$22,665*



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

7. <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.		

8. <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)	(2,985)
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)	(2,985)
8.4 Cash and cash equivalents at quarter end (item 4.6)	8,029
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	8,029
8.7 <b>Estimated quarters of funding available (item 8.6 divided by item 8.3)</b>	2.68
<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: 27 October 2021

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 30 September 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	
P29/2649	Highway North	100	Pending		L29/146	Goongarrie East	100	Pending	
P24/5528	Goongarrie	100	Pending						

**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  
Goongarrie Hub Expansion**

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	Pending		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		P25/2615	Kalpini-Bulong	100	Live	
M25/59	Kalpini-Bulong	100	Live		P25/2650	Kalpini-Bulong	100	Live	
M25/134	Kalpini-Bulong	100	Live		P26/4542	Kalpini-Bulong	100	Live	
M25/145	Kalpini-Bulong	100	Live		P26/4543	Kalpini-Bulong	100	Live	
M25/151	Kalpini-Bulong	100	Live		M31/488	Kalpini-Lake Rebecca	100	Pending	
M25/161	Kalpini-Bulong	100	Live		P31/2038	Kalpini-Lake Rebecca	100	Live	
M25/171	Kalpini-Bulong	100	Live		P31/2039	Kalpini-Lake Rebecca	100	Live	
M25/187	Kalpini-Bulong	100	Live		P31/2040	Kalpini-Lake Rebecca	100	Live	
M25/209	Kalpini-Bulong	100	Live		E27/643	Kalpini	100	Pending	
E27/646	Kalpini	100	Pending		E27/647	Kalpini	100	Pending	
E28/3139	Kalpini	100	Pending		P25/2306	Kalpini-Bulong	100	Live	15
P25/2295	Kalpini	100	Live		M25/19	Kalpini-Bulong	100	Live	15
P25/2296	Kalpini-Bulong	100	Live	15	P25/2307	Kalpini-Bulong	100	Live	15
P25/2297	Kalpini-Bulong	100	Live	15	P25/2308	Kalpini-Bulong	100	Live	15
P25/2304	Kalpini-Bulong	100	Live	15	P25/2408	Kalpini-Bulong	100	Live	15
P25/2305	Kalpini-Bulong	100	Live	15	P25/2409	Kalpini-Bulong	100	Live	15

**Yerilla Hub  
WA Regional**

Tenure	Location	Ardea Interest (%)	Status	Note
E39/2188	Yundamindra	100	Live	
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	

**Goongarrie Hub Expansion**

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

**Ashburton**

Tenure	Location	Ardea Interest (%)	Status	Note
E08/3432	Ashburton	100	Pending	
E08/3433	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	
E29/1078	Perrinvale	100	Live	

**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 30 September 2021**
**Lachlan Fold Belt – Ardea**

Tenure	Location	Ardea Interest (%)	Status	Note
EL 8557	Restdown 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 2021.
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.
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.

**Interests in Mining Tenements and Petroleum Tenements Acquired or Increased during the September Quarter 2021**
**Ardea WA Tenements**

Tenure	Location	Nature of Interest	Ardea Interest beginning Quarter (%)	Ardea Interest end Quarter (%)
E08/3432	Ashburton	Application	0	100
E08/3433	Ashburton	Application	0	100
M39/1147	Yerilla-Aubils	Application	0	100