

<b>Ticker:</b> AR3 AU	<b>Cash:</b> A\$9m	<b>Project:</b> Koppamurra
<b>Market cap:</b> A\$39m	<b>Price:</b> A\$0.31/sh	<b>Country:</b> Australia
REC. (unc): BUY	TARGET (unc): A\$1.45/sh	RISK RATING (unc): HIGH

Today's quarterly contained few surprises but shows continued progress at AR3's flagship Koppamurra project, which we think remains best in class among Aussie ionic clay projects, with a combination of size (>80Mt with multi km growth potential), location (South Australia, not too remote, good land access) and grade/REE splits. Notably for the upcoming MRE, we think infill is sufficient to convert the majority of the current 81Mt MRE to Indicated, plus we see at least 8-15Mt of new MRE added based on assays released, and up to 20-30Mt of additional mineralization if unreleased assays hit, taking our base case expectation to ~100Mt with upside potential. Other highlights during the quarter included met test work (supportive of our agitated leach base case) and the MoU with Neo, which is an important vote of confidence from the leading Western manufacturing of REE magnets and performance materials. Today **we maintain our modelled 70Mt mine inventory, our BUY rating and A\$1.45/sh price target based on 0.75x NAV<sub>7%</sub>**. Already the leading Australian domestic ionic clay project, we expect Koppamurra to move towards development this year with updated MRE, maiden economic study completion and mine lease application submission targeting production by 2025/2026. At the current price level, we think AR3 is both cheaper and better than domestic ionic-clay peers and through Chairman Dudley Kingsnorth, has the standing in the REE industry to bring the project forward, which we think others will struggle with.

## DQ22: MRE upcoming (SCPe ~100Mt), met tests + MLA commenced, A\$9m cash

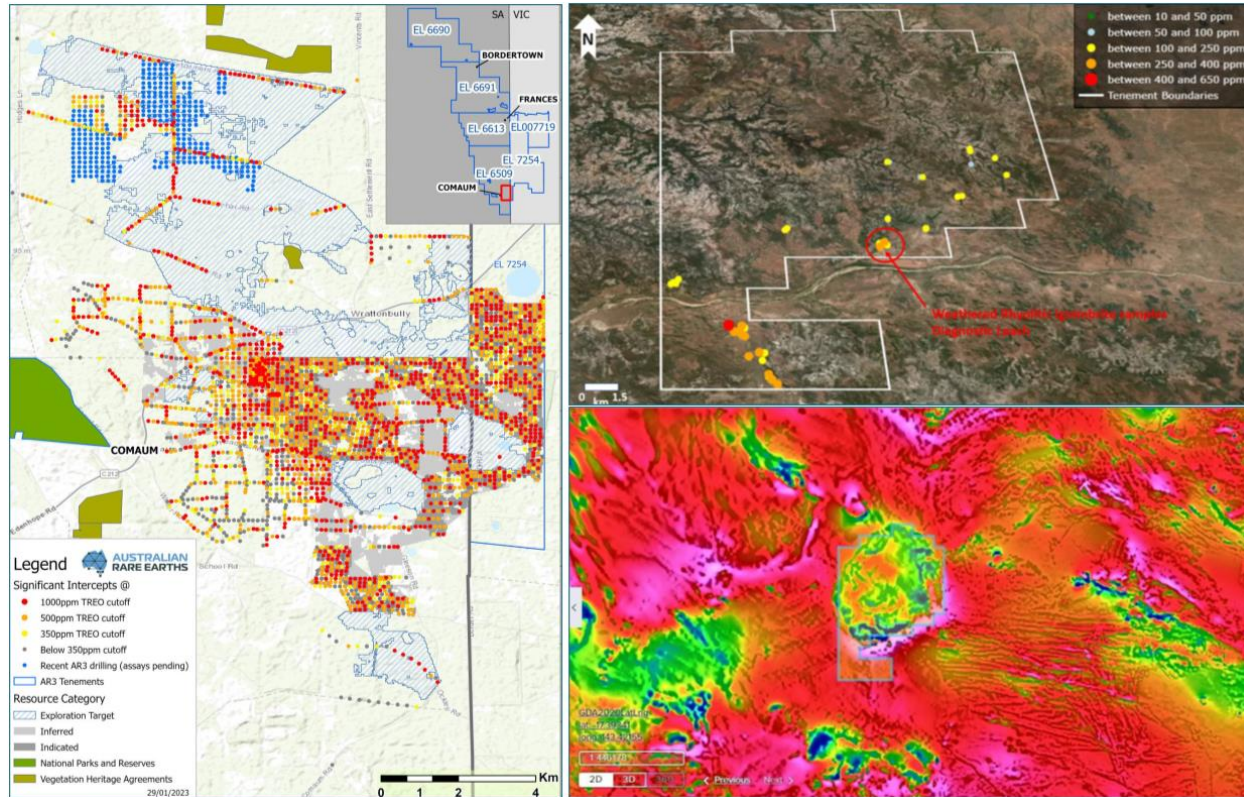
Australian Rare Earths (AR3) released its DQ22 quarterly activities and cash flow.

**Financials:** AR3 ended the quarter with A\$9.0m of cash (~5 quarters of funding) with US\$0.7m used in operating activities and A\$1.1m used in investing.

**Koppamurra:** Highlights included drilling results (see 14 Dec and 8 Nov notes) from 1,239 holes / 13,000m of aircore drilling aimed at both resource growth and Inferred to Indicated conversion (current MRE is 81.4Mt at 785ppm incl. 45Mt at 835ppm Indicated). The updated MRE is guided for this quarter. Drilling is ongoing post a short winter break focused on extensions of the existing resource area followed by regional drilling on Victorian and follow-up drilling on Frances and South Australian. Met tests on an ~800kg sample from trial mining is being processed at ANSTO for detailed met tests with results expected this quarter. Additionally, preparation for the Mining Lease Application (MLA) commenced during the December 2022 quarter.

**Corporate and other:** AR3 signed an MoU for the negotiation of a joint development agreement with Neo Performance Materials (Neo) for Neo to provide technical assistance and participate in Koppamurra's development, and for the two companies to collaborate to identify and develop future clay-hosted rare earth projects in Australia and New Zealand. AR3 also commenced early stage sampling and exploration work on the Maisie Creek project in QLD with samples ranging from 250ppm to up to >400ppm TREO.

Figure 1. (A) Koppamurra plan map of drilling and (B/C) Massie Creek prospect sample locations



Source: Australian Rare Earths

## Why we like Australian Rare Earths

1. Domestic Australian source of HREEs
2. Can enter production by 2025/2026 due to low capex, quick build and no permitting red flags
3. Exploration upside on huge 4,000km<sup>2</sup> tenements that were first drilled in December 2020

## Catalysts

1. 1Q23: metallurgical testing results
2. 1Q23: MRE update
3. 1Q23: follow-up sampling at Massie Creek prospect
4. 2023: resource extension and regional drilling at Koppamurra
5. 2023: SCPe PEA and FS
6. 2024: SCPe permitting, finance and production decision
7. 2H24-1H25: SCPe construction
8. 2H25: SCPe production ramp up

## Research

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<b>Ticker:</b> AR3 AU	<b>Price / mkt cap:</b> A\$0.31/sh, A\$39m	<b>Market P/NAV:</b> 0.11x	<b>Assets:</b> Koppamurra
<b>Author:</b> J Chan / E Magdzinski / K Korp Rec / PT:	<b>BUY / A\$1.45</b>	<b>1xNAV FD:</b> A\$2.13/sh	<b>Country:</b> Australia

Group-level SOTP valuation	4Q22	1Q23E			Resource / Reserve	Mt	ppm	TREO 000t	REO	\$m insitu	EV/insitu
	A\$m	O/ship	NAVx	A\$/sh							
Koppamurra NPV 1Q23E	<b>189</b>	100%	0.75x	1.40	Measured, ind. & inf.	40	725	29	1,877	1.05%	
SCPe 50Mt MRE growth - 3% insitu value	82	100%	0.75x	0.61	SCPe Mine Inventory	70	750	53	2,469	0.80%	
Exploration incl other Aussie projects	25	100%	0.75x	0.18	<b>Commodity price</b>	<b>Jun '22</b>	<b>Jun '23</b>	<b>Jun '24</b>	<b>Jun '25</b>	<b>Jun '26</b>	
Central SG&A & fin costs 1Q23E	(19)	-	0.75x	(0.14)	NdPr price (US\$/t)	143	113	154	154	154	
Cash and restr. cash 4Q22	9	-	0.75x	0.07	<b>Share data</b>						
Cash from options	2	-	0.75x	0.01	Basic shares (m): 129.5	FD + options (m):	135.5	FD/FF	174.7		
Debt 4Q22	-	-	0.75x	-	<b>Ratio analysis</b>	<b>Jun '22</b>	<b>Jun '23</b>	<b>Jun '24</b>	<b>Jun '25</b>	<b>Jun '26</b>	
<b>1xNAV7% spot fully diluted, pre-funded</b>	<b>288</b>			<b>2.13</b>	FD shares out (m)	135	175	169	169	169	
Assumed equity raised	50		0.75x	0.29	EPS (US\$/sh)	(0.04)	(0.01)	(0.03)	(0.06)	0.12	
<b>1xNAV7% spot fully funded</b>	<b>338</b>			<b>1.94</b>	CFPS before w/c (US\$/sh)	(0.01)	(0.01)	0.06	(0.18)	0.14	
<b>1x fully funded NAVPS sensitivity to gold price and discount / NAV multiple</b>					FCFPS pre growth (US\$/sh)	(0.02)	(0.02)	0.16	(0.09)	0.12	
					FCF/sh (US\$/sh)	(0.04)	(0.04)	(0.25)	(0.48)	0.12	
					FCF yield pre growth (US\$/sh)	(5%)	(5%)	52%	(29%)	41%	
					FCF yield (%)	(14%)	(13%)	(81%)	(158%)	41%	
					EBITDA margin (%)	-	-	-	(6%)	47%	
					FCF margin (%)	--	--	--	(413%)	23%	
					ROA (%)	(29%)	(16%)	(4%)	(7%)	12%	
					ROE (%)	(31%)	(17%)	(8%)	(18%)	27%	
					ROCE (%)	(31%)	(18%)	(4%)	(3%)	24%	
					PER (x)	(6x)	(19x)	(10x)	(6x)	3x	
					P/CF (x)	(28x)	(21x)	(10x)	(8x)	2x	
					EV/EBITDA (x)	(5x)	(18x)	(9x)	(100x)	2x	

Valuation (A\$/sh)	Dy: \$100/kg	\$125/kg	\$150/kg	\$175/kg	\$200/kg
0.50xNAV	0.45	0.70	0.95	1.20	1.45
0.60xNAV	0.55	0.85	1.15	1.45	1.75
0.75xNAV	0.70	1.10	<b>1.45</b>	1.80	2.20
1.00xNAV	0.95	1.45	1.95	2.45	2.90

Valuation (A\$/sh)	Dy: \$350/kg	\$425/kg	\$500/kg	\$575/kg	\$650/kg
0.50xNAV	0.80	0.90	0.95	1.05	1.15
0.60xNAV	0.95	1.05	1.15	1.25	1.35
0.75xNAV	1.20	1.30	<b>1.45</b>	1.60	1.70
1.00xNAV	1.60	1.75	1.95	2.10	2.30

Koppamurra NPV7% (US\$m)	\$100/kg	\$125/kg	\$150/kg	\$175/kg	\$200/kg
10% discount	38	83	129	174	220
8% discount	60	114	167	220	273
7% discount	74	132	<b>189</b>	247	304
6% discount	89	152	215	277	340
5% discount	107	175	243	311	379

Koppamurra 1xNAV sensitivity to recovery and payability	Recov: 50.0%	55.0%	60.0%	65.0%	70.0%
<b>Koppamurra NPV7% (US\$m)</b>					
Payability: 60%	81	94	106	119	131
Payability: 70%	164	177	<b>189</b>	202	214
Payability: 80%	247	260	272	285	297
Payability: 90%	330	343	355	368	380
Payability: 100%	413	425	438	450	463

Valuation over time	Jun '22	Jun '23	Jun '24	Jun '25	Jun '26
Koppamurra NPV (US\$m)	107.6	117.7	159.3	198.7	191.0
Downstream	152.3	163.0	174.4	186.6	271.0
Exploration and in-situ tonnes	82.4	82.4	82.4	82.4	82.4
Cntrl G&A & fin costs (US\$m)	(19.5)	(18.9)	(28.9)	(6.3)	1.8
Net cash at 1Q (A\$m)	9.0	5.9	16.3	(65.2)	(44.3)
1xNAV (A\$m)	332	350	403	396	502
P/NAV (x):	0.10x	0.14x	0.13x	0.13x	0.10x
Shares O/S(m)					
1xNAV share px FD (A\$/sh)	2.96	2.26	2.35	2.35	2.98
ROI to equity holder (% pa)	872%	172%	97%	67%	58%

Sources and uses of cash	A\$10m	SCPe current cash + options	A\$11m
SCPe capex (A\$100m)	A\$100m	Debt package	A\$80m
SCPe contingency	A\$17m	Equity Raised	A\$50m
SCPe G&A + fin. cost to prodn	A\$7m		
SCPe working capital	A\$8m		
Total uses	A\$141m	Total proceeds	A\$141m

Production (100%)	Jun '24	Jun '25	Jun '26	Jun '27	Jun '28
Koppamurra (t REE)	--	420	1,500	1,350	1,103
Koppamurra (t Nd+Pr)	--	89	317	286	233
Koppamurra (t Dy)	--	11	39	35	29
Koppamurra (t Tb)	--	2	7	6	5
Koppamurra revenue (US\$/kg REE)	--	62	62	62	62
Koppamurra cash cost (US\$/kg REE)	--	38	27	30	37
Koppamurra AISC (US\$/REE)	--	56	43	47	54

Source: SCP estimates

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BUY:	53
HOLD:	1
SELL:	0
UNDER REVIEW:	1
TENDER:	0
NOT RATED:	0
TOTAL	55

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