

<b>Ticker:</b> AR3 AU	<b>Cash:</b> A\$13m	<b>Project:</b> Koppamurra
<b>Market cap:</b> A\$45m	<b>Price:</b> A\$0.345/sh	<b>Country:</b> Australia
REC. (unc): BUY	TARGET (unc): A\$1.30/sh	RISK RATING (unc): HIGH

Today's MoU on a joint development agreement (JDA) and offtake with Neo Performance Materials is a major external validation of the project: Neo is the only western company with a major downstream rare earths presence with magnet and advanced products manufacturing capacity inside and outside China. The fact that Neo is getting involved shows both a positive endorsement of Koppamurra as a project and validation of our thesis that heavy rare earths are both even more China dependent (~90% for DyTb vs ~70% for NdPr) and geologically harder to find than critical light rare earths. While skeptics can rightly argue that HREE rich ionic clay deposits are lower grade than hard rock LREE deposits, we think it's only a matter of time before relative REE prices reflect this even more than today... unless automakers are content or consigned to sourcing from China. AR3's Koppamurra and IXR's Makuutu are the only near-term deposits capable of addressing non-Chinese supply between now and 2026 and today's news shows that companies in the know are paying attention, even as retail shareholders continue to pursue LREE hard rock discoveries that we don't think move the needle when push comes to shove, given more options for NdPr supply. **We maintain our BUY rating and A\$1.30/sh price target based on 0.75x NAV<sub>7%</sub>.** What we like about AR3 is it's by far the largest Aussie clay deposit, the most advanced, and crucially has both good DyTb content and is not too remote, located within 2.5 hours of Adelaide in development friendly Southern Australia. While recent months have seen new REE clay explorers emerge, what we're seeing is most have fatal flaws – low HREE content, too remote, or too deep/high strip.

## MoU with Neo provides technical validation of Koppamurra by a company that knows REEs

AR3 announced an MoU with Neo Performance Materials for a joint development agreement (JDA) on Koppamurra. This includes technical assistance from Neo to AR3 on flowsheet optimisation and sample testing, collaboration on identification and development of future projects in Australia and New Zealand, general terms on a binding offtake on 50% of AR3's first production module at Koppamurra and a ROFR on module 2. AR3 will issue Neo 3,500,667 share purchase options (~2% of FD shares outstanding if exercised) at A\$0.48/sh expiring in three years.

## 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. 2H22: Trial mining, metallurgical testing and flowsheet optimisation, 10,000-20,000m of drilling
2. 2022-2023: SCPe PEA, FS and permitting
3. 2024: SCPe permitting, finance and production decision
4. 2H24-1H25: SCPe construction
5. 2H25: SCPe production ramp up

## Research

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Ticker: AR3 AU		Price / mkt cap:		A\$0.35/sh, A\$45m		Market P/NAV:		0.13x		Assets: Koppamurra									
Author: J Chan		Rec / PT:		BUY / A\$1.30		1xNAV FD:		A\$2.07/sh		Country: Australia									
Group-level SOTP valuation				1Q22	2Q22E		Resource / Reserve		Mt	ppm TREO	000t REO	\$m insitu	EV/insitu						
				A\$m	O/ship	NAVx	A\$/sh												
Koppamurra NPV 2Q22E				166	100%	0.75x	1.28	Measured, ind. & inf.		40	725	29	1,877	1.14%					
SCPe 50Mt MRE growth - 3% insitu value				82	100%	0.75x	0.64	SCPe Mine Inventory		60	750	45	2,117	1.01%					
Exploration incl other Aussie projects				25	100%	0.75x	0.19	Commodity price		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26					
Central SG&A & fin costs 2Q22E				(19)	-	0.75x	(0.14)	NdPr price (US\$/t)		143	113	154	154	154					
Cash and restr. cash 1Q22				13	-	0.75x	0.10	Share data											
Cash from options				-	-	0.75x	-	Basic shares (m): 129.5		FD + options (m):		129.5	FD/FF	180.2					
Debt 1Q22				-	-	0.75x	-	Ratio analysis		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26					
1xNAV7% spot fully diluted, pre-funded				268			2.07	FD shares out (m)		148	180	180	180	180					
Assumed equity raised				48		0.75x	0.27	EPS (US\$/sh)		(0.02)	(0.01)	(0.03)	(0.05)	0.11					
1xNAV7% spot fully funded				316			1.75	CFPS before w/c (US\$/sh)		(0.02)	(0.01)	0.06	(0.17)	0.14					
1x fully funded NAVPS sensitivity to gold price and discount / NAV multiple																			
Valuation (A\$/sh)		NdPr: \$100/kg	\$125/kg	\$150/kg	\$175/kg	\$200/kg	FCFPS pre growth (US\$/sh)		(0.02)	(0.01)	0.15	(0.08)	0.12						
0.50xNAV		0.45	0.65	0.90	1.10	1.30	FCF/sh (US\$/sh)		(0.05)	(0.03)	(0.23)	(0.45)	0.12						
0.60xNAV		0.55	0.80	1.05	1.30	1.55	FCF yield pre growth (US\$/sh)		(7%)	(4%)	44%	(24%)	35%						
0.75xNAV		0.65	1.00	1.30	1.60	1.95	FCF yield (%)		(14%)	(10%)	(67%)	(131%)	35%						
1.00xNAV		0.90	1.35	1.75	2.15	2.55	EBITDA margin (%)		-	-	-	(4%)	48%						
Valuation (A\$/sh)		Dy: \$350/kg	\$425/kg	\$500/kg	\$575/kg	\$650/kg	FCF margin (%)		--	--	--	(408%)	23%						
0.50xNAV		0.75	0.80	0.90	0.95	1.00	ROA (%)		(16%)	(12%)	(5%)	(7%)	14%						
0.60xNAV		0.85	0.95	1.05	1.15	1.25	ROE (%)		(18%)	(13%)	(10%)	(23%)	33%						
0.75xNAV		1.10	1.20	1.30	1.40	1.55	ROCE (%)		(18%)	(13%)	(4%)	(4%)	29%						
1.00xNAV		1.45	1.60	1.75	1.90	2.05	PER (x)		(15x)	(28x)	(12x)	(7x)	3x						
Koppamurra NPV7% (US\$m)		\$100/kg	\$125/kg	\$150/kg	\$175/kg	\$200/kg	P/CF (x)		(17x)	(31x)	(12x)	(11x)	2x						
10% discount		32	73	114	155	196	EV/EBITDA (x)		(13x)	(27x)	(14x)	(155x)	3x						
8% discount		52	99	147	194	242	Income statement		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26						
7% discount		63	115	166	217	269	Revenue (US\$m)		--	--	--	20	94						
6% discount		77	132	188	243	299	COGS (US\$m)		--	--	--	(17)	(44)						
5% discount		91	151	212	272	332	Gross profit (US\$m)		--	--	--	3	50						
Koppamurra 1xNAV sensitivity to recovery and payability																			
Koppamurra NPV7% (US\$m)		Recov: 50.0%	55.0%	60.0%	65.0%	70.0%	Expenses (US\$m)		(3)	(4)	(0)	(1)	(3)						
Payability: 60%		69	80	91	102	113	Impairment & other (US\$m)		--	--	--	--	--						
Payability: 70%		144	155	166	177	188	Net finance costs (US\$m)		--	--	(1)	(5)	(4)						
Payability: 80%		219	230	241	252	264	Tax (US\$m)		--	--	--	--	(12)						
Payability: 90%		294	305	316	328	339	Minority interest (US\$m)		--	--	--	--	--						
Payability: 100%		369	380	392	403	414	Net income attr. (US\$m)		(3)	(4)	(1)	(2)	31						
Valuation over time		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26	EBITDA (US\$m)		(3)	(2)	(4)	(1)	45						
Koppamurra NPV (US\$m)		96.9	106.1	146.9	185.2	175.9	Cash flow		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26						
Downstream		137.6	147.2	157.5	168.5	251.6	Profit/(loss) after tax (US\$m)		(3)	(2)	(5)	(9)	20						
Exploration and in-situ tonnes		82.4	82.4	82.4	82.4	82.4	Add non-cash items (US\$m)		--	--	--	3	9						
Cntrl G&A & fin costs (US\$m)		(18.7)	(18.5)	(28.5)	(5.6)	2.7	Less wkg cap / other (US\$m)		--	0	16	(24)	(4)						
Net cash at 1Q (A\$m)		12.7	7.2	5.7	(75.9)	(53.9)	Cash flow ops (US\$m)		(3)	(2)	11	(30)	25						
1xNAV (A\$m)		311	324	364	355	459	PP&E (US\$m)		--	--	(50)	(51)	(3)						
P/NAV (x):		0.14x	0.17x	0.17x	0.18x	0.14x	Other (US\$m)		--	--	--	--	--						
Shares O/S(m)												Cash flow inv. (US\$m)		(4)	(4)	(52)	(51)	(3)	
1xNAV share px FD (A\$/sh)		2.40	1.98	2.02	1.97	2.54	Debt draw (repayment) (US\$m)		--	--	40	40	--						
ROI to equity holder (% pa)		597%	139%	80%	55%	49%	Equity issuance (US\$m)		8	--	40	--	--						
Sources and uses of cash														Other (US\$m)		--	--	--	
SCPe evaluation costs		A\$10m	SCPe current cash + options		A\$13m		Cash flow fin. (US\$m)		8	--	80	40	--						
SCPe capex (A\$100m)		A\$100m	Debt package		A\$80m		Net change post forex (US\$m)		1	(6)	39	(42)	22						
SCPe contingency		A\$18m	Equity Raised		A\$48m		FCF (US\$m)		(7)	(6)	(41)	(82)	22						
SCPe G&A + fin. cost to prodn		A\$8m											Balance sheet		Jun '22	Jun '23	Jun '24	Jun '25	Jun '26
SCPe working capital		A\$8m											Cash (US\$m)		13	7	46	4	26
Total uses		A\$144m											Accounts receivable (US\$m)		0	0	0	7	12
												Inventories (US\$m)		0	0	--	9	5	
												PPE & exploration (US\$m)		5	9	61	109	103	
												Other (US\$m)		--	--	--	--	--	
												Total assets (US\$m)		18	16	107	129	146	
Production (100%)		Jun '24	Jun '25	Jun '26	Jun '27	Jun '28	Debt (US\$m)		--	--	40	80	80						
Koppamurra (t REE)		--	420	1,500	1,350	1,099	Other liabilities (US\$m)		1	1	17	8	5						
Koppamurra (t Nd+Pr)		--	89	317	286	232	Shareholders equity (US\$m)		21	21	61	61	61						
Koppamurra (t Dy)		--	11	39	35	29	Retained earnings (US\$m)		(4)	(6)	(11)	(20)	(0)						
Koppamurra (t Tb)		--	2	7	6	5	Minority int. & other (US\$m)		--	--	--	--	--						
Koppamurra revenue (US\$/kg REE)		--	63	63	63	63	Liabilities+equity (US\$m)		18	16	107	129	146						
Koppamurra cash cost (US\$/kg REE)		--	38	27	30	37	Net cash (US\$m)		13	7	6	(76)	(54)						
Koppamurra AISC (US\$/REE)		--	56	44	47	54	Net debt to NTM EBITDA (x)		6.6x	1.8x	6.4x	1.7x	1.5x						

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BUY:	50
HOLD:	1
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TENDER:	0
NOT RATED:	0
TOTAL	52

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