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# Metals & Mining Research

## **Best Undeveloped Projects**

November 2024

www.argonaut.com

## **Corporate Directory**

#### **Institutional Sales**

NAME & TITLE	CONTACT INFORMATION
Chris Wippl	+61 8 9224 6875
Executive Director, Head of Institutional Sales	
Damian Rooney	+61 8 9224 6862
Director, Institutional Sales Trader	
Josh Welch	+61 8 9224 6868
Institutional Research Sales	
George Ogilvie	+61 8 9224 6871
Institutional Research Sales	
Jonathan Bank	+61 2 4086 9413
Institutional Research Sales	
Matt Middlemas	+61 8 9224 6803
Associate, Institutional Sales	
John Santul	+61 8 9224 6859
Consultant, Institutional Sales & Research	
Andrew Detata	+61 8 9224 6856
Designated Trading Representative	
Ellen Nicolle	+61 8 9224 6834
Corporate Access Manager	

#### Research

NAME & TITLE	CONTACT INFORMATION
Hayden Bairstow Executive Director, Head of Research	+61 8 9224 6835
Ian Christie	+61 8 9224 6872
Director Research, Industrials	
Jon Scholtz	+61 8 9224 6873
Director Research, Metals & Mining	
George Ross	+61 8 9224 6840
Senior Analyst, Metals & Mining Research	
Patrick Streater	+61 8 9224 6869
Analyst, Metals & Mining Research	
Pia Donovan	+61 8 9224 6840
Associate Analyst, Metals & Mining Research	

#### **Corporate Finance**

NAME & TITLE	CONTACT INFORMATION
Eddie Rigg	+61 8 9224 6804
Executive Chairman, Head of ECM	
Liam Twigger	+61 8 9224 6890
Deputy Chairman & Executive Director	
Greg Southee	+61 8 9224 6806
Managing Director, Head of Corporate Finance	
Nick McDonough	+61 8 9224 6816
Executive Director, Corporate Finance	
Graeme Testar	+61 8 9224 6891
Executive Director, Corporate Finance	
Mike Sperinck	+61 8 9224 6892
Technical Director, Corporate Finance	
Kaiden Gilbert	+61 8 9224 6892
Director, Corporate Finance	
Rob Telford	+61 8 9224 6892
Director, Equity Capital Markets, Corporate Finance	

#### **Corporate and Retail Sales**

NAME & TITLE	CONTACT INFORMATION
Glen Colgan	+61 8 9224 6874
Executive Director, Desk Manager	
Kevin Johnson	+61 8 9224 6880
Executive Director, Corporate Stockbroking	
Ben Willoughby	+61 8 9224 6876
Senior Dealer, Corporate Stockbroking	
David Keogh	+61 8 9224 6852
Senior Dealer, Corporate Stockbroking	
Geoff Barnesby-Johnson	+61 8 9224 6854
Senior Dealer, Corporate Stockbroking	
James Massey	+61 8 9224 6849
Dealer, Corporate Stockbroking	
Cameron Prunster	+61 8 9224 6853
Dealer, Private Clients	
Harrison Massey	+61 8 9224 6829
Dealer, Private Clients	
Jake Solomon	+61 8 9224 6855
Dealer, Private Clients	
Matej Mandic	+61 8 9224 6887
Dealer, Private Clients	
Amanda Fu	+61 8 9224 6805
Dealer, Private Clients	

#### **Board of Directors**

NAME & TITLE	CONTACT INFORMATION
Eddie Rigg	+61 8 9224 6804
Executive Chairman, Head of ECM	
Liam Twigger	+61 8 9224 6890
Deputy Chairman & Executive Director	
Greg Southee	+61 8 9224 6806
Group Managing Director, Head of Corporate Finance	9
Ben Clifford	+61 2 4086 9411
Managing Director, Portfolio Manager, Head of Sydne	еу
Kevin Johnson	+61 8 9224 6880
Executive Director	
Brent Stewart	+61 8 9224 6888
Non-Executive Director	
Jenn Morris	+61 8 9224 6888
Non-Executive Director	

#### **Perth Office**

Level 30, 77 St Georges Terrace Perth, Western Australia, 6000 P +61 8 9224 6888

#### **Sydney Office**

Level 11, Suite 2, 6 O'Connell Street Sydney, NSW, 2000

#### **Cover Photo**

Cover photo shows Sovereign Metals' Kasiya Project (Source: SVM)



## **Table of Contents**

Overview	4
2024 Best Undeveloped Projects & Special Mentions	5
2023 Best Undeveloped Projects Review	9
Best Undeveloped Project Key Picks	10
Aura Energy (AEE): Tiris Uranium Project	
Chalice Mining (CHN): Gonneville PGE-Ni-Cu-Co Project	. 22
Capricorn Metals (CMM): Mt Gibson Gold Project	. 26
Centaurus Metals (CTM): Jaguar Nickel Project	. 30
De Grey Mining (DEG): Hemi Gold Project	. 34
Develop Global (DVP): Woodlawn Copper-Zinc Project	. 38
FireFly Metals (FFM): Green Bay Copper-Gold Project	. 42
Meteoric Resources (MEI): Caldeira REE Project	. 46
Northern Minerals (NTU): Browns Range Heavy REE Project	. 50
New World Resources (NWC): Antler Cu-Zn-Au-Ag Project	. 54
NexGen Energy (NXG): Rook I Uranium Project	. 58
Predictive Discovery (PDI): Bankan Gold Project	. 62
Patriot Battery Metals (PMT/PMET): Shaakichiuwaanaan Lithium Project	. 66
Perseus Mining (PRU): Nyanzaga Gold Project	. 70
Spartan Resources (SPR): Never Never Gold Project	. 73
Sovereign Metals (SVM): Kasiya Rutile-Graphite Project	. 76
WA1 Resources (WA1): Luni Niobium Project	. 80
West African Resources (WAF): Kiaka Gold Project	. 84
Special Mentions	88
Encounter Resources (ENR): Aileron Niobium Project	. 88
Magnetic Resources (MAU): Lady Julie Gold Project	. 90
Ora Gold (OAU): Crown Prince Gold Project	. 92
Resouro Strategic Metals: Tiros Titania Rare Earth Element Project	. 94
Wildcat Resources (WC8): Tabba Tabba Lithium Project	. 96
WIA Gold (WIA): Kokoseb Gold Project	. 98
Disclosures1	.00



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## Metals & Mining November 2024

Argonaut has selected 18 projects in the 11<sup>th</sup> edition of its Best Undeveloped Projects (BUPs) book, with another 6 deemed worthy of a Special Mention

Low costs and high margins are key selection criteria, ensuring wider investor and funding appeal

The commodity spread of this year's BUPs includes a mix of base, precious and speciality metals

Project progression is the key outcome to monitor, although owners' share prices continue to exhibit relative outperformance

#### Important Disclosures:

Please refer to important disclosures for AUC, CTM, DEG, DVP, FFM, GL1, LM8, MAU, NWC, NXG, NTU, OAU, PMT, WIA and other disclosures from page 98

## **Argonaut's Best Undeveloped Projects**

Argonaut has completed its 2024 analysis and the 11<sup>th</sup> edition of the best undeveloped projects (BUPs) in the metals and mining sector majority owned by ASX listed companies.

**Selection criteria:** Our 'bottom-up' approach is generally management agnostic although we apply some commodity and jurisdictional filters where we see unacceptable risk. We use the following selection criteria as a basis to identify projects for BUPs:

- 1. Development stage between scoping study and pre-commercial production
- 2. An Internal Rate of Return (IRR) exceeding 25%
- 3. Profitable through all market/commodity price cycles
- 4. A high likelihood of achieving >\$100M project valuation within 24 months
- 5. The corporate owner must have a market capitalisation less than A\$5B

We allow for some flexibility with criteria, particularly IRR if assessing a long-life project.

**Selection focus:** This book's focus is on project quality, not current corporate valuation, and project advancement is an important outcome to monitor in coming years. Inclusion does not necessarily require a corporate level opinion, recommendation, or valuation, although we provide this detail if the stock is covered. That said, we continue to measure share price performance against relevant indices.

**High margin:** The key criteria for BUPs projects are low cost, high margin assets with the capability to maintain strong financial returns through the commodity price cycle. The quality of such projects enables a broader range of financing options and underpins likely development as well as increasing M&A appeal. We introduce some price cycle flexibility for commodities emerging due to the decarbonisation shift. Some leeway is given on criteria depending on discount rate and potential project mine life.

**2023 BUPs project progression:** Most BUPs companies have advanced their projects since the release of last year's book with one, Azure Minerals, subject to a takeover offer from SQM and Hancock Prospecting. Deterioration of battery metal pricing and investor sentiment negatively impacted the progression of lithium, nickel, and graphite projects. Centaurus Metals (CTM) has pivoted its Jaguar project to a sulphide concentrate development, delaying plans for production of a nickel battery chemical. Rare Earth Element players such as Meteoric Resources have (MEI) progressed studies despite subdued metal prices. Improvement in uranium pricing and pro-nuclear sentiment is well timed for developer NexGen Energy (NXG) with its Rook I project approaching conclusion of permitting.

**2023 BUPs performance:** Over the past twelve months, the share price of companies with projects featuring as Special Mentions in 2023 increased an average of 58%, outperforming both the S&P/AX 200 (+12%) and S&P/ASX Small Resources (+21%) indices. Our main list picks faired more poorly, losing 17% of value over the period, particularly weighed down by lithium and rare earth element companies. The best main list share price performer was Kasiya Rutile and Graphite Project owner Sovereign Metals (SVM), up 81% over the year. Meanwhile, Wia Gold (WIA), owner of 2023 Special Mention Kokoseb Gold Project, returned gains of 356% over the period.



## 2024 Best Undeveloped Project & Special Mentions

#### **Best Undeveloped Projects Key Picks**

Our BUPs project key picks are shown in Table 1 below.

#### Table 1: 2024 Best Undeveloped Projects Key Picks

Company	Project	Ticker	Commodity	Location	Market Cap	Cash	Debt	EV	Share
2024 Best Undeveloped P	roiects				A\$m	A\$m	A\$m	A\$m	Price
Aura Energy	Tiris	AEE	Uranium	Mauritania	119	15	-	103	0.14
Chalice Mining	Gonneville	CHN	PGM-Ni	Western Australia	578	98	-	480	1.49
Capricorn Metals	Mt Gibson	CMM	Gold	Western Australia	2,511	145	30	2,396	6.11
Centaurus Metals	Jaguar	CTM	Nickel	Brazil	209	20	-	189	0.42
De Grey Mining	Hemi	DEG	Gold	Western Australia	3,312	828	-	2,484	1.38
Develop	Woodlawn	DVP	Zn-Cu-Pb-Au	New South Wales	613	31	45	628	2.26
Firefly Metals	Green Bay	FFM	Cu-Au	Canada	632	88	-	544	1.13
Meteoric Resources	Caldeira	MEI	Light REEs	Brazil	253	36	-	217	0.11
Northern Minerals	Browns Range	NTU	Heavy REEs	Western Australia	153	17	-	136	0.019
New World Resources	Antler	NWC	Cu-Zn-Pb-Ag	United States	60	11	-	49	0.021
NexGen Energy	Rook I	NXG	Uranium	Canada	6,605	538	430	6,497	11.69
Predictive Discovery	Bankan	PDI	Gold	Guinea	592	42	-	551	0.25
Patriot Battery Metals	Shaakichiuwaanaan	PMT	Lithium	Canada	509	130	-	380	0.36
Perseus Mining	Nyanzaga	PRU	Gold	Tanzania	3,433	960	-	2,474	2.50
Spartan Resources	Never Never	SPR	Gold	Western Australia	1,313	83	-	1,230	1.18
Sovereign Metals	Kasiya	SVM	Rutile-Graphite	Malawi	426	41	-	385	0.71
WA1 Resources	Luni	WA1	Niobium	Western Australia	894	95	-	799	13.20
West African Resources	Kiaka	WAF	Gold	Burkina Faso	1,732	464	429	1,698	1.52

Source: Company data, FactSet, Argonaut estimates

Note: Stock Market capitalisation as at 13 November 2024. Cash and debt are latest available adjusted for subsequent capital events. \* Indicates Argonaut estimates

As befitting the best projects, all of them have attractive metrics based on feasibility studies and/or Argonaut calculations. As shown in Table 2, Internal Rates of Return (IRR) range between 19% and 300%. Spartan Resources Never-Never is an outlier with 300% IRR due to a relatively low capex and rapid return. With Never-Never, average IRR for the group was 51% and without 36%.

#### Table 2: 2024 Best Undeveloped Projects Key Picks metrics and feasibility assumptions

Project	Ticker	Commodity	Location	Project	Disc. Rate	IRR	Capex	First Prod'n	Jurisdiction
				NPV (A\$m)	%	(%)	A\$m	(Year)	Risk
Tiris *	AEE	Uranium	Mauritania	430	11%	19%	343	2027	High
Gonneville *	CHN	PGM-Ni	Western Australia	1,012	10%	21%	855	2028	Low
Mt Gibson *	CMM	Gold	Western Australia	1,452	5%	56%	343	2026	Low
Jaguar *	CTM	Nickel	Brazil	657	9%	23%	658	2027	Low
Hemi *	DEG	Gold	Western Australia	4,297	5%	50%	1400	2026	Low
Woodlawn *	DVP	Zn-Cu-Pb-Au	New South Wales	715	10%	85%	49	2025	Moderate
Green Bay *	FFM	Cu-Au	Canada	1,171	8%	24%	415	2027	Low
Caldeira	MEI	Light REEs	Brazil	1,237	8%	29%	457	2029	Low
Browns Range *	NTU	Heavy REEs	Western Australia	480	7%	26%	487	2028	Low
Antler *	NWC	Cu-Zn-Pb-Ag	United States	671	9%	25%	462	2027	Low
Rook I	NXG	Uranium	Canada	4,980	8%	35%	2418	2028	Low
Bankan *	PDI	Gold	Guinea	1,789	7%	38%	702	2028	High
Shaakichiuwaanaan *	PMT	Lithium	Canada	2,912	11%	33%	1,311	2030	Low
Nyanzaga *	PRU	Gold	Tanzania	822	10%	38%	697	2027	Moderate
Never Never *	SPR	Gold	Western Australia	1,446	6%	300%	125	2026	Low
Kasiya *	SVM	Rutile-Graphite	Malawi	1,673	10%	22%	923	2029	Moderate
Luni *	WA1	Niobium	Western Australia	3,513	9%	50%	697	2025	Low
Kiaka *	WAF	Gold	Burkina Faso	1,617	12%	44%	729	2025	High

Source: Company data, FactSet, Argonaut

Notes: Project NPV calculations are on a 100% basis after royalties, tax, and free carried interest. \* Indicates Argonaut financial metrics, otherwise Company financial metrics.



#### **Special Mentions**

We list this year's BUPS Special Mentions in Table 3. Special Mentions are projects which have either not reached the study phase, or do not meet all our criteria at this point. Inclusion means we expect to see some of these projects progressing to our BUPs main list in coming years.

#### Table 3: 2024 BUPS Special Mentions

Company	Project	Ticker	Commodity	Location	<b>Market Cap</b> A\$m	Cash A\$m	Debt A\$m	<b>EV</b> A\$m	Share Price
2024 Special Mentions									
Encounter Resources	Aileron	ENR	Niobium	Western Australia	156	10	-	146	0.35
Magnetic Resources	Lady Julie	MAU	Gold	Western Australia	299	15	-	283	1.12
Ora Gold	Crown Prince	OAU	Gold	Western Australia	73	3	-	70	0.01
Resouro Strategic Metals	Tiros	RAU	REE-TiO2	Brazil	24	7	-	18	0.26
Wildcat Resources	Tabba Tabba	WC8	Lithium	Western Australia	458	69	4	392	0.37
WIA Gold	Kokoseb	WIA	Gold	Namibia	162	40	-	122	0.14

Source: Company data, FactSet, Argonaut estimates

Stock Market capitalisation as at 13 November 2024. Cash and debt are generally as at 30 September unless later dated information available.

#### **Commodity and Country Splits**

Our 2024 project lists include 24 projects hosting a diverse range of commodities. An improved gold market has fuelled increased exploration across the space, resulting in the emergence of new greenfield and near-mine discoveries. We include nine gold projects, most of which are located within Western Australia. We remain firmly committed to our belief that decarbonisation will play an increasingly important role in the global economy. Future facing metals such as lithium, rare earth elements, nickel, copper and niobium are all represented in our project selections.





Source: Argonaut



Australia, Africa and the Americas are all represented in this year's book. Western Australia remains the focal point for Australian exploration, discoveries and project advancement. Projects in Africa are split across six countries stretching from Namibia in the south, to Mauritania in the north. In North America, we identify three Canadian projects and a single project in the United States. Three projects are selected from Brazil, being the only country represented from South America.









Source: Argonaut





Figure 4: Distribution of projects across regions.

Source: Argonaut

## 2023 Best Undeveloped Projects Review

#### **Project Progression**

BUPs selection is based on project quality not the corporate owner's value at a point in time, so ensuing project development is the key outcome to monitor in this book. Table 4 below highlights the progression of the projects included in our 2023 book over the last year.

Most BUPs projects have advanced over the year including studies completed for Jaguar, Antler, Cascabel and Kasiya. Highlights also include De Grey's \$600 million capital raise which will be used for financing of Hemi. However, project progression will be difficult for Evolution Energy's Chilalo Project especially under current macro conditions as graphite product pricing continues to underperform.

Project	Status October 2023	Progress to Date							
2023 Best Undeveloped	2023 Best Undeveloped Projects Key Picks								
Ewoyaa (A11)	In June 2023, A11 reported a DFS for Ewoyaa which set out a 12-year mine plan with steady state production of 365ktpa. A11 was granted a mining lease in October 2023.	The Company has advanced the Project through the achievement of key criteria as agreed under the terms of the Mining Lease. This includes commencement of trading on the Ghana Stock Exchange, completion of the downstream conversion and feldspar feasibility studies, completion of two Environmental Protection Agency public hearings and environmental Impact Statement Submission. The project's Mineral Resource has increased to 36.8Mt at 1.24% Li <sub>2</sub> O.							
Jaguar (CTM)	The Jaguar project Definitive Feasibility Study was scheduled for completion during the December quarter of 2023 and the company had raised \$47m in July 2023 to fund its completion. The Jaguar Project had achieved a total JORC MRE of 109Mt at 0.87% Ni for 949kt of contained Ni.	The company defined a global Mineral Resource Estimate (MRE) totalling 138.2Mt at 0.87% Ni for 1.20Mt of contained nickel, with global MRE increasing 27% since previous Mineral Resource Estimate in November 2022. A positive Feasibility Study for the development of the Jaguar Project was published in July. The study only considers an open pit nickel sulphide ore over initial 18-year mine life. Key environmental approval of a Preliminary License was granted in January and an Installation License application has been lodged and expected approval is anticipated for Q4 2024. A strategic partnering process is currently underway.							
Hemi (DEG)	In September 2023, the DFS for the Hemi Project was released. Scheduled production had been set to mid-2026 as a 530kozpa over an initial 12-year mine life.	Progress in the past 12 months included publishing of the Hemi Regional Scoping Study along with further MRE updates. Hemi had an updated Ore Reserve of 6 million ounces with a grade of 1.5g/t Au and updated Mineral Resource of 10.5 million ounces last November. During May, De Grey launched a \$600 million raise which leads into Project Financing. Debt talks have progressed with DEG expected announce a debt package imminently.							
Chilalo (EV1)	Activities in which EV1 had completed included completion of the DFS/FEED, approval of key agreements with the Tanzanian Government, renewal of mineral licences and a new offtake and strategic agreement with graphite anode manufacturer BTR.	During March, the Company announced an update for the Chilalo Project, providing information on several optimisation initiatives that the Company is exploring. This includes the Mtwara Port shipping solution which is a shorter trucking route and lower shipping costs compared to Dar es Salaam. The company also made the final cash payment to PAPs under the Resettlement Action Plan for Chilalo.							

#### Table 4: 2023 BUPs Key Picks Project Progress



Project	Status October 2023	Progress to Date							
2023 Best Undeveloped	2023 Best Undeveloped Projects Key Picks (continued)								
Manna (GL1)	Ongoing drilling and supporting technical studies continue to enhance the projects technical fundamentals. Results of the Manna DFS is scheduled for completion in Q1 of CY2024 with a Final Investment Decision following.	Global Lithium is currently progressing its Definitive Feasibility Study (DFS) for the Manna Lithium Project. GL1 announced the recommencement of drilling at Manna in May 2024 with an initial 6,000m RC drill program. In June 2024, GL1 increased the Manna Lithium Deposit JORC 2012 Mineral Resource by 43% to 51.6Mt at 1.0% Li2O. The DFS will incorporate the updated MRE, detailed mine schedule, metallurgical and process flowsheet test work results and detailed operating and capital costs. Studies for the project have been put on ice until market conditions improve.							
Antler (NWC)	Since October 2021, NWC owns 100% of the Antler Project. The 2023 Antler Scoping Study had just been completed which examines a 1.3Mtpa operation with an initial 13-year life.	In July NWC completed a PFS for Antler. Progress prior to this included drilling more than 150 holes for >60,000m, declaring two JORC Mineral Resource Estimates and completing two Scoping Studies. Outcomes of the PFS included production expected in 2027, 341,100 tonnes of copper-equivalent metal will be payable over the life of mine and a mining inventory consisting of 13.6Mt @ 1.6% Cu, 3.7% Zn, 0.6% Pb, 24.5g/t Ag and 0.26g/t Au. The company also submitted a Mine Plan of Operations to the BLM in January 2024. Regional exploration programs failed to identify any new deposits in 2024.							
Rook I (NXG)	NXG had entered into binding term sheets with Queen's Road Capital Investment and Washington H Soul Pattinson for convertible debentures valued at US\$110M. All funds were stated to be used in Rook I development and exploration activities.	Front End Engineering Design (FEED) was completed in Q2 2024. Enhanced site infrastructure on and around the site has been completed, in preparation for full construction to commence upon final Federal approval. In August, updates to the initial capital, sustaining, and operating cost estimates of Rook I included estimated CapEx is C\$2.2 billion, with an average cash operating cost over the life of mine estimated at C\$13.86/lb U3O8. The CNSC is expected to finalised its decision on Rook I permitting in late 2024.							
Browns Range (NTU)	NTU entered into an agreement to supply lluka (ILU) with up to 5,500 tonnes of Browns Range total rare earth oxides in concentrate annually. The project had Mineral Resources Estimates totalling 10.8 Mt and grading 0.76% TREO for 82kt of contained TREO.	Final DFS is scheduled completion Q1 CY2025, Final Investment Decision targeted H1 CY2025 and first production targeted Q4 CY2027. Progress on the DFS in the past 12 months included mining and geotechnical studies as well as draft mining studies, mine design and schedules and a mining cost model for mining operations. In Q1 2024, exceptional Dy and Tb assay results which confirm significant high-grade mineralisation that remains open at depth. Poor rare earth element prices have slowed development plans.							
Ngualla (PEK)	In April 2023 PEK and the Tanzanian Government formally executed a Framework Agreement for development of Ngualla with PEK maintaining 84% interest. The Ngualla Special Mining License has an initial 33- year mine life and a defined Ore Reserve of 18.5Mt at 4.80% REO.	On July 2024, PEK signed a non-binding investment, Funding and Development Term Sheet with Shenghe Resources. Shenghe is to invest ~A\$96m to subscribe for a 50% interest in Peak's wholly owned subsidiary, Ngualla Group UK Limited, which holds an 84% of the Ngualla Project. Prior to this signing, Peak announced the signing of a non-binding indicative Lenders Consortium Term Sheet, which underpinned aggregate debt of US\$176.6m. More progress over the past 12 months includes the finalisation of a FEED Study on the Ngualla Project. Key aspects include optimisation of the process plant, airstrip, road and Tailings Storage Facility and progressing geotechnical and hydrological drilling.							



Project	Status October 2023	Progress to Date						
2023 Best Undeveloped	2023 Best Undeveloped Projects (continued)							
Cascabel (LON:SOLG)	In July 2023, SOLG received a 25-year term renewal for the Cascabel project mining concession, securing the claim until at least 2048. The Company completed the Cascabel PFS in 2022.	In March 2024, an updated pre-feasibility study was announced highlighting an optimized phased approach of initial 12 Mtpa operation, scaling to 24 Mtpa. The company also secured an exploitation agreement granting 33-year development and production rights, renewable for the life of the mine which includes \$75 million advance royalty payment and economic imbalance mechanism. In July SOLG entered into a transformative financing gold stream agreement with Franco-Nevada and Osisko Gold Royalties of US\$100 million Initial Deposit for project advancement and US\$650 million Construction Deposit.						
Kasiya (SVM)	Sovereign had reported a \$40.4m placement to Rio Tinto (15% strategic interest) with proceeds to be used to advance Kasiya. And in September the Kasiya PFS was reported.	Sovereign is currently undertaking a PFS Optimisation Study at Kasiya which includes a Pilot Mining and Land Rehabilitation Program (Pilot Phase). In July 2024, the dry mining component of the Pilot Phase was successfully completed, confirming Kasiya can be efficiently mined using standard mobile excavators and trucks. Following this, the hydraulic mining trial has now commenced at Kasiya as part of the PFS. Infill drilling has commenced with a resource upgrade expected early 2025.						

Source: Company announcements, Argonaut

#### Table 5: 2023 Special Mentions Project Progress

Project	Status October 2023	Progress to Date
2023 Special Mentions		
Katanning (AUC)	In May 2023 a scoping study was released proposing an increased mill size. In September 2023, Katanning MRE update saw the project reach the +3Moz mark with a total MRE of 89Mt at 1.06g/t Au for 3.04Moz.	Further progress achieved with the Definitive Feasibility Study on the Katanning Gold Project, with key updates including the acquisition of two additional mining leases in October. Additions also include the competition of open pit geotechnical assessment and metallurgical test work. The 'enhanced' DFS is expected to be completed in H1 CY2025 following strategic review of the development plan. With a change of management team a great focus on development.
Andover (AZS)	SQM made an offer to acquire 100% of the shares in Azure for a cash amount of \$3.52 per Azure Share in October 2023. In August 2023, AZS estimated range of potential mineralisation was 100Mt - 240Mt grading at 1.0% - 1.5% L <sub>i2</sub> O.	Azure Minerals has been officially acquired by joint bidders Sociedad Química y Minera de Chile S.A. (SQM) and Hancock Prospecting for \$1.7 billion for \$3.70 per share. AZS was delisted from the ASX officially on the 21 <sup>st</sup> of May 2024. The Andover Project (60% owned by Azure) is still advancing with drilling successes in Target areas.
Salamanca (BKY)	In July 2016 Berkeley published the results of a Definitive-Feasibility Study. BKY's was focusing on resolving the current permitting situation, and ultimately advancing the Salamanca project towards production.	During the past 12 months, BKY initiated a study evaluating the design, permitting, construction and operation of a solar power system at the Project. This study has been finalised, a formal application submitted to the relevant authorities in Salamanca, and the permitting process continued during the year. A change of government will be needed to progress development.



Project	Status October 2023	Progress to Date				
2023 Special Mentions (continued)						
North Laverton (EMR)	EMR was in the process of taking over public unlisted company Bullseye Mining Limited with North Laverton being the most advanced of the three projects in which Bullseye holds. Additional Resources and Reserves were expected to be published in the second half of 2023.	In June 2024 Emerald successfully completed its takeover of Bullseye Mining Limited. The Definitive Feasibility Study (DFS) for the Dingo Range Gold Project commenced during the year. Key areas of focus are on the resource definition drill program and completion of environmental assessment activities with an aim to deliver the DFS in December 2024 in advance of an investment decision and commencement of development in late 2024.				
Havieron (AIM:GGP)	Newcrest's August 2022 Resource Statement for Havieron totalled 85Mt at 2.0g/t Au and 0.26% Cut for a total of 5.5Moz of gold and 222kt of copper.	Over the past 12 months, progress was made on the approval and permitting of Haviero, with the Environmental Protection Authority of Western Australia making its formal decision to assess approval of the project. Greatland's Havieron Mineral Resource estimate completed in December 2023 comprises 131Mt @ 1.7g/t Au and 0.21% Cu, for a total of 7Moz of gold and 275kt of copper or 8.4Moz AuEq. Newmont will sell Telfer, its 70 per cent stake in Havieron, and any other related interests in the Paterson region, to Greatland for up to \$US475 million.				
Kambalda (LM8)	The Baker PFS was reported in May 2023 and considers an initial three-year mine life for production of 4.1kt of nickel in concentrate sold per annum. Lunnon completed a \$18m placement and \$2.5m SPP in August 2023 to fund planned exploration and potential predevelopment activities.	Lunnon reported on mineral Resources for the first-time at Fisher, Silver Lake and East Trough. This includes an initial East Trough MRE was 108,000 tonnes at 2.7% nickel for 3,000 contained nickel tonnes. An updated Baker MRE was announced on 11 June 2024, with the Baker MRE now 1,030,000 tonnes at 3.3% Ni for 33,700 contained nickel tonnes. Work also progressed on the combined Baker and Foster PFS, which involves assessing the benefits and potential improvements to the Baker PFS of operating Baker and Foster concurrently. Suspension of Nickel West operations has prompted a development pause.				
Caldeira (MEI)	Exploration and technical studies were underway. In October 2023, global engineering firm Ausenco was awarded a contract for the Caldeira REE Project Scoping Study. The Study was expected to be completed by Q1 of CY2024.	In July 2024, the company released the Caldeira Project Scoping Study. The project boasts an operating C1 cash cost of US\$7.00/kg of recovered TREO in a Mixed Rare Earths Carbonate over a 20-year mine life, with an average Opex of US\$5.50/kg of TREO over the first five years. The Study has already progressed into the Pre-Feasibility Study phase with the results for that work due to be completed in late December 2024.				
Corvette (PMT) (Now renamed Shaakichiuwaanaan)	The Maidan MRE was released in July 2023, which saw a Maiden Inferred MRE of 109Mt at 1.42% Li <sub>2</sub> O using a 0.40% Li <sub>2</sub> O cut-off. PMT also announced a C\$50m flow-through financing and a C\$109m investment and MOU with Albemarle.	In July 2024, Patriot renamed the Corvette Project/Property to the Shaakichiuwaanaan Project. Progress also includes announcement of the Consolidated MRE, including both the CV5 and CV13 spodumene pegmatites, of 80.1 Mt at 1.44% Li2O Indicated and 62.5 Mt at 1.31% Li2O. On May 2024, the Company announced it had mutually agreed with Albemarle Corporation not to extend their MOU, allowing Patriot to explore a broader range of strategic partnerships within the downstream lithium sector. Updated Mineral Resource Statement is targeted for March/April 2025. Progression of the project will be lithium price dependent.				



Project	Status October 2023	Progress to Date				
2023 Special Mentions (continued)						
Bankan (PDI)	Bypassing the scoping study, PDI are progressing directly to a PFS scheduled for Q1 CY24, which will include a maiden Ore Reserve. PDI also released an MRE update to 100.5Mt at 1.66g/t Au for 5.38Moz	The Bankan Project is moving towards the development phase, with an Environmental & Social Impact Assessment and a Pre- Feasibility Study completed in April. The PFS outlined a maiden Ore Reserve estimate of 3.05Moz, average production of 269Koz per annum over a 12-year mine life. The company also completed an A\$50m oversubscribed equity raise completed in May to further advance and grow the Bankan Gold Project. The DFS is progressing and is scheduled for completion during the second half of 2025. In September 2024, Perseus Mining increased its stake in PDI to 19.9%.				
Never Never (SPR)	In July 2023, Spartan had released an updated MRE for Never Never of 721koz at 5.85g/t Au, with a higher- grade underground component of 630Koz at 7.64g/t Au	During the past 12 months, drilling continued at the Never Never deposit targeting resource definition, resource infill/conversion and growth/extensional drilling. In July, an updated MRE of 5.72Mt @ 8.07g/t Au for 1,485,200 ounces was released. The July 2024 update represents a 100% increase in contained gold compared to the Mineral Resource Estimate updated in July 2023. SPR completed a \$25M raise in November 2023 and \$80M raise in April 2024. The Company announced the discovery of the new high-grade Pepper Gold Prospect located immediately south of Never Never.				
Luni (WA1)	Luni was in early-stage discovery being discovered in November 2022.	WA1 continued to progress drilling in the West Arunta with a reverse circulation and diamond drilling rigs operating until December 2023. The drill season recommenced in February with a single diamond drilling rig which was complimented by the addition of a sonic drilling rig from late April. The initial Inferred MRE, reported in July, defined 200 Mt at 1.0% Nb <sub>2</sub> O <sub>5</sub> and contained a high-grade subset of 53 Mt at 2.1% Nb <sub>2</sub> O <sub>5</sub> (at a 0.25% Nb <sub>2</sub> O <sub>5</sub> ).				
Caldeira (MEI)	Exploration and technical studies were underway. In October 2023, global engineering firm Ausenco was awarded a contract for the Caldeira REE Project Scoping Study. The Study was expected to be completed by Q1 of CY2024.	In July 2024, the company released the Caldeira Project Scoping Study. The project boasts an operating C1 cash cost of US\$7.00/kg of recovered TREO in a Mixed Rare Earths Carbonate over a 20-year mine life, with an average Opex of US\$5.50/kg of TREO over the first five years. The Study has already progressed into the Pre-Feasibility Study phase with the results for that work due to be completed in late December 2024.				
Kokoseb (WIA)	The Kokoseb discovery, which was discovered in June 2022, produced a maiden MRE in May 2023 of 41Mt at 1.0g/t Au for 1.3Moz.	In April 2024, WIA released an updated Inferred MRE for Kokoseb of 2.1 Moz at 1.0 g/t Au which includes higher grade component of 34 Mt at 1.4 g/t Au for 1.53 Moz. This represents a 63% increase in contained gold from the maiden MRE. WIA recently raised A\$30 million to focus on further aggressive MRE growth and classification upgrades at the Kokoseb gold discovery.				



#### **Market Performance**

Share prices of stocks in the 2023 BUPs main list decreased an average of 17% over the 12 months to 30<sup>th</sup> October (Table 6). Poor performance of the main list largely reflected deterioration in battery/magnet metal prices and sentiment (lithium, graphite, nickel, rare earth elements). In comparison, the ASX Small Resources Index and the ASX 200 Index were up 12% and 21% respectively. The best performance on the BUPs main list came from Sovereign Metals (SVM), up 81%. Indicative of the volatility during the period the BUPs prices increased up to 12% during the period and at their peak prices the BUPs companies were all up with an average of 41%.

Special Mentions companies generally performed better. By the end of the measurement period, the average share price was up 58% with the highest performer coming from WIA Gold (WIA) which was up 356%. As with the stocks on the main list, they fared even better during the year and were all up; at their peak prices the average gain was 105%.

#### Table 6: 2023 BUPs & Special Mentions Performance

Company	Project	Ticker	Commodity	Start SP	End SP	Period SP	Peak SP	SOI	Mkt Cap
2022 Rost Undeveloped	Dreieste			(AUD)	(AUD)	Change	Change	Change	Change
2023 Best Undeveloped I Atlantic Lithium	-	A11	Lithium	0.20	0.24	270/	E 20/	8%	-37%
Centaurus Metals	Ewoyaa		Nickel	0.38	0.24	-37%	52%		
	Jaguar	CTM		0.47	0.44	-6%	26%	1%	-6%
De Grey	Hemi	DEG	Gold	1.18	1.53	30%	31%	31%	70%
Evolution Energy	Chilalo	EV1	Graphite	0.16	0.04	-76%	13%	59%	-61%
Global Lithium	Manna	GL1	Lithium	1.19	0.21	-82%	15%	0%	-82%
New World Resources	Antler	NWC	Copper	0.03	0.02	-23%	85%	26%	-3%
NexGen Energy	Rook I	NXG	Uranium	9.05	11.54	28%	51%	15%	39%
Northern Minerals	Browns Range	NTU	Rare Earths	0.03	0.02	-38%	56%	18%	-26%
Peak Rare Earths	Ngualla	PEK	Rare Earths	0.41	0.19	-54%	0%	1%	-53%
SolGold	Cascabel	LSE:SOLG	Copper	0.18	0.16	-10%	40%	0%	-10%
Sovereign Metals	Kasiya	SVM	Rutile/Graphite	0.44	0.80	81%	82%	7%	93%
Simple Average						-17%	41%		-7%
2023 Special Mentions									
Ausgold	Katanning	AUC	Gold	0.29	0.56	91%	116%	55%	197%
Azure Minerals	Andover	AZS	Lithium	3.49	3.69	6%	25%	3%	9%
Berkeley Energia	Salamanca	ВКҮ	Uranium	0.34	0.38	13%	34%	0%	13%
Emerald Resources	North Laverton	EMR	Gold	2.59	4.22	63%	70%	6%	72%
Greatland Gold	Havieron	LSE:GGP	Gold	0.18	0.13	-30%	24%	105%	43%
Lunnon Metals	Kambalda	LM8	Nickel	0.76	0.36	-52%	0%	2%	-51%
Meteoric Resources	Caldeira	MEI	Rare Earth	0.25	0.11	-57%	27%	18%	-49%
Patriot Battery Metals	Corvette	PMT	Lithium	1.15	0.39	-66%	7%	27%	-66%
Predictive Discovery	Bankan	PDI	Gold	0.24	0.28	19%	31%	14%	35%
Spartan Resources	Never Never	SPR	Gold	0.41	1.59	290%	310%	26%	392%
WA1 Resources	Luni	WA1	Niobium	8.49	13.52	59%	173%	19%	90%
Wia Gold	Kokoseb	WIA	Gold	0.03	0.16	356%	444%	26%	473%
Simple Average			00.0	0.00	0.20	58%	105%	_0/0	97%

Price Change: For 12-month period to 31/10/2024; SP: Share Price, SOI: Shares on Issue. Source: Company data, FactSet, Argonaut

As shown in Figure 5, special mentions underperformed during the beginning of the period, however, have improved since late February 2024. The indexed average share price performance of BUPs key picks stocks was below both the S&P/ASX 200 and the S&P/ASX Small Resources indices across the period, whereas Special Mentions ended above both indices and the key picks. There was a rise of the BUPs stocks above both indices at the beginning of the period where BUPs reached its peak for the period, up 12%. At this point both the S&P/ASX 200 and the S&P/ASX Small Resources were up less than 5%. Since then, the decline in BUPs companies' share prices was sharp. Over the past few months, the share prices have started to improve however, they are still sitting 17% below the prices at the start of the period. The BUPs stocks followed the same trend as the S&P/ASX Small Resources however, the index did not decline as rapidly at the beginning of the period allowing for overall better performance. The S&P/ASX 200 did not follow this trend and had a steady increase over the period. The special mentions dropped at the beginning of the period, however, has been increasing and remained positive since late February 2024. This has led to very positive performance of this list in the past few months.





Figure 5: Argonaut BUPs share price performance vs ASX indices

Source: FactSet, Argonaut

Gold was the clear commodity winner across the BUPs and Special Mentions list for 2023, with all the ASX listed gold companies finishing up across the period. Of the 8 gold stocks, only the two listed on the LON; SOLG and GGP, were down. There were mixed performances across the seven specialities with niobium doing particularly well, but all nickel stocks ended the measurement period in negative territory, as did most lithium stocks. However, both uranium stocks did end the period positive.

Regionally, there were winners and losers in Africa, Australia and North America. WIA Gold was the best in Africa, followed by Sovereign (SVM) and Predictive Discovery (PDI). Other than that, African performance was relatively poor in part reflecting perceived sovereign risks. More than half the Australian stocks finished up however, with large poor performances from several stocks, the overall performance of Australia was lowered. Two of the North American stocks finished down with NexGen Energy (NXG) being the only positive performer, finishing in strongly positive territory. All three South American stocks performed negatively. Apart from the standout performances in Wia Gold (Africa) and Spartan Resources (Australia), the performance from this period was mixed with some very high and low performances across all regions.





Figure 6: 2023 BUPs performance by Commodity and Geography

#### Source: FactSet, Argonaut

The performance over the longer term of the companies listed in the BUPs list has been strong relative to the broader market with an average share price increase each year of 12%; higher than both the Small Resources and S&P 200. Although, this year the BUPs performed more poorly over the period, the stronger years have been able to boost the average annual performance to beat these indices.

#### Figure 7: BUPs (combined main list and special mentions) performance over time

	Annual Performance					
Year	Key Picks	SM	Small Res.	S&P 200		
2014	10%	-42%	-20%	-5%		
2015	62%	16%	48%	3%		
2016	7%	9%	17%	12%		
2017	-19%	10%	6%	-2%		
2018	34%	30%	-7%	14%		
2019	51%	40%	1%	-11%		
2020	-1%	37%	46%	24%		
2021	-17%	-29%	-8%	-6%		
2022	6%	-22%	-4%	-1%		
2023	-17%	58%	12%	20%		
Average	12%	11%	9%	5%		
Cumulative	<b>126%</b>	76%	99%	51%		

Source: FactSet, Argonaut



As shown in Figure 8 although the BUPs key picks was outperformed by the indices this year, the special mentions list had a standout performance. This in turn results in the average for all stocks on both lists to outperform both the S&P/ASX Small Resources and the S&P/ASX 200.





Source: FactSet, Argonaut

Figure 9: Individual company 2023 BUPS Company performance Oct 2023- Oct 2024



Source: FactSet, Argonaut



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## **SPEC BUY**

Current Price	\$0.14
Valuation	\$0.40
TSR	186%

Ticker: Sector:		Moto	AEE Is & Mining		
Sector.		Weta	is a winning		
Shares on Issue (m):			848.5		
Market Cap (\$m):			118.8		
Cash Est. (\$m)			15.4		
Debt Est. (\$m)	۱.		0.0 <b>103.4</b>		
Enterprise Value (\$m	):		103.4		
Projects			Stage		
Tiris		Pre-De	evelopment		
52 wk High/Low:		\$0.32	\$0.11		
12m Av Daily Vol (m)	:		1.612		
Mineral Resource	• •	U3O8 (PPM)			
Tiris	161.0	216.0	76.6		
Oum Ferkik	22.0	301.0	14.6		
Reserves	(Mt)	U3O8 (PPM)	U3O8 (Mlb)		
Tiris	40.1	255	22.5		
Cashflow		2023	2024		
Operating Cash Flow		(3.8)	(5.2)		
Investing Cash Flow		(7.2)	(11.7)		
Financing Cash Flow		11.6	22.1		
Cash Balance		11.2	16.5		
Directors					
Phil Mitchell			e Chairman		
Andrew Grove	ector & CEO				
Partick Mutz Non-Exeutive Director					
Warren Mundine		Non-Exeut	ive Director		
		Non-Exeut	ive Director ive Director		
Warren Mundine		Non-Exeut			

Substantial Sharenoluers.	/0
Macquarie Securities	14.4%
Lind Partners	9.4%
Asean Invest Advisors	8.8%
Curzon Uranium	7.1%
ALPS advisors	6.1%

#### Share Price Graph and Trading Volumes



## Aura Energy (AEE)

**Tiris Uranium Project** 

Analyst: Jon Scholtz

### **Quick Read**

Aura Energy (AEE) flagship project is its Tiris Uranium project located in Mauritania. AEE is on track to take a final investment decision on Tiris shortly, which is currently pencilled in for early 2025. We have assumed FID in 2QCY25, followed by 24 months of construction and first production in 2QCY27. On our forecasts Tiris then ramps-up to a peak of 2.25mlb by 2030 with a declining profile on grade thereafter. We note the key for Tiris is the shallow ore body, free dig; but most importantly the higher degree of beneficiation (from 240ppm head grade to ~1,500-2,000ppm leach feed grade).

### **Overview**

#### Location

AEE's Tiris project is located in the Sahara Desert in the northeast of Mauritania. AEE owns 85% of the project, with the Mauritanian government having a 15% free carry interest. Mauritania has a long history of mining, with current operating mines including Tasiast gold mine (Kinross Gold); SNIM iron ore mines, the Geulb Moghrein gold copper mine (First Quantum) and the greater Tortue Ahmeyim offshore gas field (BP).

A DFS on the project was completed in 2021 and has subsequently been updated in 2023 and had a FEED study in 2024 highlighting robust economics. AEE is now focussed on funding and is expected to do an FID in the near-term (early 2025). The project is fully licensed.

#### Figure 10: Tiris Map (Mauritania)





Resource of 76.6mlb, with reserve

of 22.5mlb expected to be

upgraded shortly



#### **Geology and Resources**

The uranium resources lie predominantly within either weathered, partially decomposed red granite or in colluvial gravels developed on or near to red granites. The resources are believed to have developed within shallow depressions or basins, where colluvial material has accumulated in desert sheet wash events. Calcrete-hosted uranium mineralisation of several metres in thickness occurs in gravels and weathered granite at surface to a depth of 8 metres, or under a very thin (<30cm) veneer of wind-blown sand. AEE has recently increased the resource significantly, lifting by 55% to 161mt at 216ppm for 76.6mlb of contained uranium. The Reserve is currently 40.1mt at 255ppm for 22.5mlb of contained uranium, however we note this is currently being assessed (catalyst).

Reserves							
Deposit	Categories	Cut-off (ppm)	Tonnes (m)		Grade (U3O8 ppm)	Contained (U3O8 t)	Contained (U3O8 Mlb)
Tiris TOTAL	Proved	100	)	19.2	258	4,944	10.9
	Probable	100	)	20.9	252	5,262	11.6
	Total	100	)	40.1	255	10,206	22.5
Resources							
Deposit	Categories	Cut-off (ppm)	Tonnes (m)		Grade (U3O8 ppm)	Contained (U3O8 t)	Contained (U3O8 Mlb)
Tiris East	Measured	100	)	34	231	7,847	17.3
	Indicated	100	)	48	214	10,251	22.6
	Inferred	100	)	79	211	16,647	36.7
	Total			161	216	34,746	76.6

Source: AEE, Argonaut Research

We note the key for Tiris is the shallow ore body, free dig; but most importantly the higher degree of beneficiation (from 240ppm head grade to ~1,500-2,000ppm leach feed grade).

#### Figure 12: Tiris and peers mine and leach feed grade



Source: AEE, Argonaut Research

1.8mlb pa base case production profile, underpinned by high degree of beneficiation



Tiris is AEE flagship asset and is development ready

## FEED complete and FID in early 2025

### **Project Summary**

#### Numerous studies completed and updated

AEE completed a DFS on the Tiris in 2021 and has subsequently released and enhanced DFS, FEED and an updated production target. The studies highlighted a 25-year LOM at a mining rate of ~4mtpa with head grade of 246ppm and a plant throughput rate of 0.5mtpa with grades of 1,500-2,000ppm following beneficiation. The study also highlights initial capex of US\$230m, and an NPV8 of ~US\$499m. AEE has stated Tiris is development ready, pending financing, and is moving toward FID in early 2025.

Our current base case assumes similar uranium metrics to the studies, although we have lifted capex by 10% to US\$250m (A\$385m). Our production is also marginally lower due to grade variability and lower recoveries in the schedule. We have forecast initial production 6 months later than the current AEE timeline in 1QCY27

#### Figure 13: Study key highlights and Argonaut forecasts

Tiris project	units	DFS & FEED	Argonaut
Mining Inventory	Contained U308 Mlb	43.5	56.4
Plant throughput	mtpa	0.5	0.5
Strip ratio	x	0.8	0.80
Grade Mined	ppm	246	255
Grade processed	ppm	1752	1767
Recovery	%	84.2	85.0
Production	mlb pa	1.8	1.7
LOM	years	25	24
C1 Costs	US\$/lb	31.40	32.50
AISC	US\$/lb	35.70	37.07
Capex	US\$m	230.0	250.0
NPV	US\$m	499.0	279.5
Production start	period	3QCY26	1QCY27
Source: AEE Argonaut E	Pesearch		

Source: AEE, Argonaut Research

#### Resource of 76.6mlb, with reserve of 22.5mlb expected to be upgraded shortly

AEE completed FEED in 2024 and has adjusted production targets (producing 1.8mlb pa on average from its 2mlb capacity). In the near-term AEE will be focussed on financing (debt and equity) and on offtake/contracting agreements. We note that an FID was targeted for the end of 2024, however this has been pushed into 2025. We estimate first production in 2027 and ramp-up to a peak of 2.25mlb in 2030.

#### Figure 14: Tiris Timeline



Source: AEE, Argonaut Research

Our forecasts are largely in line with the DFS, however we forecast higher capex and a later production start.

#### Mining and Processing Overview

AEE plans to operating Hub and Spoke mining, with central processing at Tiris, with importantly the first 15 years of production only coming from 3 deposits. Mined and beneficiated ore is sent to the central 0.5mtpa leach plant via a slurry pipeline. Tiris is shallow at <6m depth, with a low strip ratio of 0.8:1 and is all free dig. AEE will operate a conventional truck and shovel open pit mining style across various pits and notes that no significant waste dumps are required as it will backfill directly into pits.





Source: AEE, Argonaut Research

Simple trommel and screening beneficiation produces a high value product for plant feed. AEE estimates that at ~75um screen size, with recover 13% of the mined mass and 91% of the uranium which will lift grade from 246ppm mined to ~1,500-2,000pm.

The beneficiated ore then undergoes conventional alkaline leaching (similar to Langer Heinrich), filtration and then ion exchange and uranium recovery into yellowcake product (UO3). Product is then dried and packaged, with uranium in the form of U308 or yellowcake, which is then drummed and shipped (Orano NSP supported logistics). AEE is targeting processing recoveries of ~85%

#### Figure 16: Tiris Flowsheet



Source: AEE, Argonaut Research

Contracts, funding updates and FID are key near-term catalysts.

We have forecast first production in 2027



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## **SPEC BUY**

\$1.49
\$2.40
61%

Directors & Management:	
Derek La Ferla	Non-Executive Chair
Alex Dorsch	Managing Director & CEO
Garret Dixon	Non-Executive Director
Stephen McIntosh	Non-Executive Director
Substantial Shareholders:	%
Timothy Rupert	10.4%
Paradice Investment	5.1%
Share Price Graph and Trac	ting Volumes
	-
2.50	30
2.00	- 25
2.00	M. M-20
1.50	
1 \ .N.A	15
1.00	
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Mav-24

Aug-24

0.00 Nov-23 Feb

Feb-24

## **Chalice Mining (CHN)**

## **Gonneville PGE-Ni-Cu-Co Project**

Analyst: Hayden Bairstow

## **Quick Read**

The delivery of a smaller scale development study should provide the market with certainty that Gonneville is an economic project that has the potential to underpin a long-term production centre for CHN. In addition, CHN is progressing with its Strategic Partnering Process, which has the potential to provide a level of funding for the smaller scale development.

The large-scale developments provide CHN with upside to a more bullish commodity price outlook than our base case. Additionally, the regional exploration potential at Julimar remains strong, with several key targets in the State Forest area remaining untested.

### **Overview**

#### Location

The Gonneville PGE-Ni-Cu-Co project is a development project located on CHN-owned farmland, in Western Australia. The Project is centred on the Gonneville Deposit – a significant greenfield mineral discovery in early 2020. Gonneville is locked ~70km north-east of Perth, with proximity providing excellent access to nearby infrastructure including high-voltage power, rail, sealed highways and deep-water ports, plus access to a significant highly skilled workforce.

Figure 17 Gonneville map



Source: CHN



#### **Geology and Resources**

The Gonneville Deposit is located at the southern end of a newly recognised >30km long geological belt, the Julimar Complex. The mafic-ultramafic intrusive belt is prospective for magmatic sulphide mineralisation. The Gonneville Deposit has a rare chonolith-like geometry, which is similar to other major mafic-ultramafic orthomagmatic systems worldwide that host some of the world's largest nickel copper/PGE deposits, including Norilsk-Talnakh and Jinchuan.

#### Figure 18: Gonneville Mining Inventory assumptions and reported Resource

Mining Inventory						
Project	Ore (mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)
Open pit	21.5	1.42	0.33	0.07	0.21%	0.22%
Underground	25.6	1.62	0.40	0.09	0.19%	0.20%
Resources						
Project	Ore (mt)	Pd (g/t)	Pt (g/t)	Au (g/t)	Ni (%)	Cu (%)
Gonneville - High Grade	58.9	1.53	0.37	0.08	0.20%	0.21%
Gonneville	657.4	0.63	0.14	0.02	0.15%	0.08%

Source: CHN, Argonaut Research

CHN's global resource at Gonneville sits at 657mt @ 0.63g/t Pd, 0.14g/t Pt, 0.02g/t Au, 0.15% Ni, 0.08% Cu and 0.01% Co. The larger resource has been defined from 320km of drilling from a total of 464 diamond and 636 RC drill holes.

CHN's updated high-grade resource estimate for the Gonneville deposit at Julimar contains 58.9mt @ 1.53g/t Pd, 0.37g/t Pt, 0.08g/t Au, 0.2% Ni, 0.21% Cu and 0.02% Co. The high-grade resource is more tightly defined, using 100 wire frames, and better suited for CHN to work towards a smaller scale open pit and underground development at Gonneville. A cut-off of A\$100/t NSR (Net Smelter return) has been used to calculate the new resource, with separate estimates for the open pit to 200m depth, below 200m and underground.

#### Figure 19: Gonneville high-grade sulphide resource overview



#### Source: CHN, Argonaut Research

## Global resource total greater than 657 million tonnes

High grade resource of 58.9Mt @

1.53g/t Pd, 0.37g/t Pt, 0.08g/t Au,

0.2% Ni, 0.21% Cu and 0.02% Co.



#### Improved recoveries from early test-work

The metallurgical test-work completed pre-treatment of ore with acid, prior to milling before the ore was washed and filtered than then pushed through flotation to produce concentrate. The three samples tested reported improved recovery rates of 5-14% for nickel and cobalt, 3-8% for copper, and 2-5% for palladium.

#### Process recoveries improving

In addition to the acid pre-treatment, CHN also tested adding in the collector reagent into the process flowsheet at the milling stage rather than flotation, which retuned 8% higher nickel/cobalt recoveries, 11% higher copper recoveries and 4% higher palladium recoveries. Increasing the flotation cell residence time from 10mins to 25mins also reported improved recoveries.

### Mitsubishi MOU

#### Partnership to success

CHN and Mitsubishi Corporation have signed a non-binding MoU (Memorandum of Understanding), that will see both parties work together during the Pre-Feasibility Study (PFS), collaborating on technical, financial, marketing and offtake aspects of the PFS. We believe conversion of this MoU to a Strategic Partnership would most likely come in the form of a direct investment at the project level by Mitsubishi Corporation, with 10% ownership at the project level the minimum investment.

### **Gonneville Development**

#### **Focus on the PFS**

CHN has reiterated it expects to complete the Gonneville pre-feasibility study (PFS) by mid-2025, which will include a start case study for a smaller scale initial development. The company noted it expects the PFS to cost A\$15m to complete. A final investment decision is expected to be made on the project in late CY26.





Source: CHN, Argonaut Research

PFS by mid-2025

#### Open pit then underground

Our development scenario for the smaller scale project at Gonneville assumes an open pit is the primary source of ore for the first 2-3 years, with a staged underground brought online from the third year, progressively ramping up to a production rate of 4.0mtpa. The open pit is forecast to have a strip ratio of 4:1 and have a mine lift of eight years, with the underground mine life currently estimated at 10 years.

Open pit ore mined (mt) Underground ore mined (mt) ------ 3E Grade (g/t) 4.5 2.5 4.0 2.0 3.5 3.0 1.5 2.5 2.0 1.0 1.5 1.0 0.5 0.5 0.0 0.0 EX138E EX39E EXADE

#### Figure 21: We assume an open pit and underground mine in our base case

Starting as an open pit operation and then heading underground

Source: CHN, Argonaut Research

#### Simplified process route possible

We assume CHN will utilise a similar flowsheet to the larger scale development outlined in the August Scoping Study. The only material defined is the removal of the leach plant which enabled the mining of the oxide mineralisation. CHN is also investigating the potential to drop the separate copper flotation stage, which could boost recoveries beyond our base case, but would most likely impact payabilities.

Our base case assumes that palladium accounts for 54% of revenue and platinum 6%. The contribution of copper and nickel has declined to 17% with gold and cobalt 3% of revenue.

#### **Production of two multielement** concentrates

#### Figure 22: We assume a similar process route to the larger scale development



Source: CHN, Argonaut Research



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## BUY

Current Price	\$6.11
Price Target	\$9.40
TSR	54%

Ticker:			СММ
Sector:		Metals 8	& Mining
Shares on Issue (m):			410.9
Market Cap (\$m):			2,510.8
Cash Est. (\$m)			144.5
Debt Est. (\$m)			29.6
Enterprise Value (\$m):			2,395.9
52 wk High/Low:		\$6.60	\$4.24
12m Av Daily Vol (m):		Ş0.00	34.24 1.070
			1.070
Projects			Stage
Karlawinda	Definitiv	ve Feasibil	-
Mt Gibson		re-Feasibil	
			.,,
Mineral Resource	Ore (mt)	(g/t)	(koz)
Karlawinda	98.5	0.71	2,252
Mt Gibson	120.8	0.84	3244
Ore Reserve	Ore (mt)	(g/t)	(koz)
Karlawinda	57.7	0.77	1,428
Mt Gibson	61.6	0.93	1834
Cashflows		2023	2024
			2024
Operating Cashflow		152.6 -47.3	158.2 -135.2
Investing Cashflow Financing Cashflow		-47.3	-135.2
Cash Balance		106.5	119.9
		100.5	115.5
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	16.0	11.5	4.5
EV/Ebit (x)	6.9	7.4	2.5
EV/Ebitda (x)	6.3	6.7	2.3
FCF yield (%)	7.1%	-10.0%	24.7%
Dividend yield (%)	0.0%	1.3%	6.7%
Directors:			
Mark Clark		xecutive C	
Mark Okeby		-Executive	
Myles Ertzen		-Executive -Executive	
Bernard De Araugo	NON	-Executive	Director

Substantial Shareholders:	
Van Eck	9
Paradice Investment	6
T. Rowe Price	5

Non-Executive Director

% 2%. 7%. 1%

#### Share Price Graph and Trading Volumes

Jill Irvin



## **Capricorn Metals (CMM)**

## Mt Gibson Gold Project

Analyst: Hayden Bairstow

### **Quick Read**

CMM's Mt Gibson Gold Project (MGGP) is a straightforward forward large-scale open pit development with 17-year mine life with an average annual production rate of 150kozpa (Years 1-15). The project is expected to produce at least 2.38Moz over a 17-year mine life at AISC of ~A\$1,700/oz. MGGP will be a large-scale open-pit operation with a new 5Mtpa plant construction and mining physicals similar to CMM's first operation which has seen consistent free cash flow generation.

### **Project Overview**

#### Location

The Mt Gibson Gold Project (MGGP) is located 280km northeast of Perth in the Murchison region of WA. A previous open pit operation last operated in 1998, the mine is serviced by existing infrastructure including the Great Northern Highway and an existing airstrip. CCM acquired the project in July 2021, spending the last few years completing further drilling and study work which has advanced the project to a 3.3Moz MRE (0.8g/t Au) and a 2.59Moz Ore Reserve (0.9g/t Au).

*Figure 23: (Left) - Location of the Mt Gibson Project. (right) - Map of the Mt Gibson deposits and open pits.* 





Source: CMM



#### **Geology & Resources**

Mt Gibson is located at the southern end of the Retaliation Greenstone belt in the Murchison province of WA. The deposit coverers numerous shoots over an 8km strike length with the deepest drilling intersecting mineralisation at a depth of 950m down dip. Mineralisation is hosted within a package of metamorphosed chlorite-biotite-muscovite altered mafic volcanics. The current MGGP Mineral Resource totals 125.1Mt at 0.8g/t for 3.3Moz. The open pit MRE is entirely reported within an A\$2,300/oz optimised pit shell highlighting further growth potential in the existing open pit inventory.

#### Figure 24: Cross section of the Orion deposit.



Source: CMM

Figure 25 - Mt Gibson April 2024 Mineral Resource Estimate.

		li li	Indicated		Inferred			Total Mineral Resources			
Material Type	Туре	Cut-Off	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
Laterite	Open Pit	0.4	1.0	0.5	17	0.8	0.5	14	1.8	0.5	31
Oxide	Open Pit	0.4	9.1	0.8	242	0.3	0.7	7	9.4	0.8	249
Transitional	Open Pit	0.4	10.8	0.8	281	0.7	0.7	15	11.4	0.8	296
Fresh	Open Pit	0.4	73.9	0.9	2,115	24.2	0.7	553	98.2	0.8	2,668
HLP	Open Pit	0.3	4.0	0.4	57	0.3	0.4	4	4.3	0.4	61
Total	Total		98.8	0.9	2,712	26.3	0.7	592	125.1	0.8	3,305

Notes:

1.Mineral Resources are estimated using a gold price of A\$2300/ounce. 2.Mineral Resources are estimated using a cut-off grade above 0.3g/t for HLP and 0.4g/t Au.

Interai resources are estimated using a cut-on grade above 0.3g/t for HLP and 0.4g/t Au.
The above data has been rounded to the nearest 100,000 tonnes, 0.1 g/t gold grade and 1,000 ounces.
Errors of summation may occur due to rounding.

Source: CMM

The Mt Gibson Project is underpinned by a significant 3.3Moz Resource base

### **Development Plans**

#### Mining

An Ore Reserve of 2.59Moz at 0.9g/t Au supports the MGGP which is made up of several open pits with a LOM operating strip ratio of 4.8:1. Ore Reserve designs have been completed using a very conservative A\$2,200/oz gold price assumption for pit designs and cut-off grades. The project is estimated to have an initial 17-year mine life producing 150kozpa during the first 15 years of production at an AISC of A\$1,650-A\$1,750/oz.

#### Figure 26 - MGGP open pit mining physicals, November 2024

Mining	Nov 2024 Update	Apr 2024 Update
Waste (tonnes millions) <sup>1</sup>	421	238
Ore (tonnes millions) <sup>1</sup>	88	57
Total (tonnes millions) <sup>1</sup>	509	295
W:O Strip Ratio <sup>1</sup>	4.8	4.2
Milling		
Dry Tonnes Per Hour (fresh ore)	600	600
Plant Availability	95%	95%
Ore Milled (Tonnes millions)	89.8	61.6
Milled Grade (g/t)	0.90	0.94
Recovery	91.8%	92.2%
Ounces Mined (millions)	2.59	1.83
Ounces Recovered (millions)	2.38	1.67
Mine life (years)	17	11.7

Source: CMM

#### Figure 27 - MGGP camp build nearing completion.



Source: CMM

MGGP mining physicals are similar to Karlawinda utilising bulk-scale mining, processing and low strip ratios

Open-pit feed will be sourced from 4 key open pits - Orion South, Orion Noth, S2 Pit and Enterprise



#### **Metallurgy & Processing**

Development of the MGGP will require the construction of a new 5Mtpa CIL plant with an estimated capital cost of A\$260m for the plant and associated infrastructure. Completed metallurgical testing indicates gravity recoveries of 15-20% with overall recoveries of 92.2% expected over the LOM (using a 125µm grind size).





Source: CMM

### **Financial Outcomes**

CMM management has a demonstrated track record following the successful construction and operation of its Karlawinda asset. CCM expects MGGP to deliver a pre-tax NPV5 of A\$1,948m using an A\$3,300/oz gold price assumption (November 2024 Update). Preproduction capital costs total A\$343m which will cover a new 5Mtpa plant, mining infrastructure, accommodation plus pre-production mining activities.

#### Figure 7 - Argonaut's MGGP production profile and AISC outlook.

Gold produced (koz) 🛛 🗕 AISC (A\$/oz) 2,000 180 160 140 1,500 120 100 1,000 80 60 500 40 20 0 FYAZE EVAAE EX2A 

Processing will be a conventional CIL flow sheet with a new 5Mtpa plant

A large scale 2.6Moz Ore Reserve supports the MGGP financials which delivers strong capital efficiencies

Source: Argonaut Research



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## **SPEC BUY**

Current Price	\$0.43
Price Target	\$0.75
TSR	74%

Ticker:			СТМ
Sector:		Metals 8	& Mining
Shares on Issue (m):			496.7
Market Cap (\$m):			208.6
Cash Est. (\$m)			19.9
Debt Est. (\$m)			0.0
Enterprise Value (\$m):			188.7
52 wk High/Low:		\$0.56	\$0.25
12m Av Daily Vol (m):			0.612
Projects			Stage
Jaguar Nickel Project	Pe	rmitting/Fi	nancing
Jambreiro Iron Ore Proj	ect		Studies
Mineral Resource			
Jaguar Nickel Project		Mt	Ni (%)
Measured		14.8	1.06
Indicated		97.8	0.84
Inferred		25.7	0.88
		2017	0.00
Cashflows		2023	2024
Operating Cashflow		-40.0	-40.6
Investing Cashflow		-6.9	-2.8
Financing Cashflow		72.5	44.0
Cash Balance		34.0	34.7
Key Metrics	FY29E	FY30E	FY31E
P/E (x)	1.7	1.8	1.9
EV/EBITDA (x)	1.2	1.2	1.3
, , ,			
Financials	FY29E	FY30E	FY31E
Revenue (\$m)	352	350	343
EBIT (\$m)	258	246	232
NPAT (A\$m)	238	231	222
Directors:			
Didier Murcia		CI	nairman
Darren Gordon	Manag	ing Directo	or & CEO
Bruno Scarpelli		Executive	Director
Mark Hancock	Non	-Executive	Director
Chris Banasik	Non	-Executive	Director
Substantial Shareholder	s:		%
McCusker Holdings			12%
Harmanis Holdings			5%
Sprott Inc.			4%
Denal Frida Managemen			40/

#### Share Price Graph and Trading Volumes

Regal Funds Management



4%

## **Centaurus Metals (CTM)**

**Jaguar Nickel Project** 

Analyst: George Ross

### Quick Rea d

In July 2024, CTM reported outcomes of the Jaguar Feasibility Study. The Study outlines a robust nickel sulphide operation that is a standout amongst global peers. Jaguar benefits greatly from Brazil's low-cost operating environment including US\$3.5c/kwh electricity. Jaguar is expected to produce nickel within the lowest AISC quartile of global producers. Nickel product will also be of very low greenhouse gas intensity. With the Study now complete, CTM will shift focus to partnership and financing discussions. We think CTM's value proposition will appeal to many suitors, particularly those seeking to diversify supply away from Indonesian nickel.

### Location

The Jaguar Project site is located within Brazil's Carajás Mineral Province within the State of Pará. The region is synonymous with large to giant iron, copper-gold & nickel deposits. The site accessed from the township of Tucumã via approximately 40km of unsealed roads.





### **Geology & Resources**

The Jaguar mineralised system is somewhat of a geological oddity. Nickel, copper, zinc and cobalt sulphide is hydrothermal in nature, with a strong structural control. Mineralisation is most reminiscent of an IOCG (Iron-Oxide-Copper-Gold) system, but with nickel as the dominant metal. Within the project area, hydrothermal fluids have pulsed upwards through sheared rocks, resulting in emplacement of vertically continuous breccias and veining. The deepest hole completed to date at Jaguar South has intersected mineralisation to over 550m vertical depth.



The 2024 updated Jaguar MRE is reported as 138.2Mt at 0.87% Ni for 1.2Mt contained Ni metal, making it one of the world's largest nickel sulphide ore bodies of good open pitable grade. The Jaguar Reserve, as outlined in the 2024 Feasibility Study, is reported as 63Mt Reserve grading 0.73% Ni





Source: CTM

### **Development Plans**

The 2024 Jaguar Definitive Feasibility Study scopes a 3.5Mtpa comminution and flotation plant with an initial 18-year mine life. Ore will be mined from multiple pits over the Jaguar and Onca deposits. CTM had originally planned to produce a sulphate or other nickel battery chemical product, however, has switched to a sulphide concentrate product for the initial build. During the first 3 years of Jaguar mine life, we expect high-quality ore will be sourced from low strip ratio open pits at the Jaguar Central, Jaguar South and Onca Preta deposits.

These early years should facilitate rapid payback of development capital expenditure. Pit optimisations for the Jaguar group of deposits suggest operations these will ultimately coalesce into a near singular 3km long x 1km wide super pit with a LOM strip ratio of  $^{77.5:1}$ . With proven vertical ore body continuity we expect that mining will inevitably migrate to underground operations. A future study is expected to evaluate underground mining, however, this scenario is not considered in the Jaguar base case.

Mineralisation vertically continuous

Project to be developed as a 3.5Mtpa operation





#### Figure 30: Planned Jaguar pits with indications of underground material.

Source: CTM

## **Metallurgy & Processing**

Mined ore will be processed at a central plant with conventional crushing, grinding, sulphide flotation and support circuits. CTM has completed extensive metallurgical tests across the Jaguar deposits and anticipates a life of mine nickel recovery of 73% for a 12.3% Ni sulphide concentrate. Jaguar is expected to produce an average of 18.7kt of nickel in concentrate each year and up to 22kt in peak periods.

The high-quality concentrate will be suitable for either pyrometallurgical or hydrometallurgical refinement. CTM's interactions with potential offtake partners has suggested a 76% payability is reasonable. While both copper and cobalt will be returned to the concentrate neither is expected to provide significant byproduct credits, received by traditional nickel sulphide concentrate producers. This benefit greatly enhances Jaguar's project economics.

#### Figure 31: Jaguar DFS process flow diagram.



Source: CTM

Singular pits across deposits will ultimately merge

Simple flotation processing for a nickel sulphide concentrate



### Permitting

Permitting well advanced

The Company has received technical approval of its Mining Lease Application by the Brazilian National Mining Agency. It has also received approval of the Environmental Impact Assessment (EIA) and formal issue of the Preliminary License (LP) by the Para State Environmental Agency. CTM is currently awaiting approval of the Jaguar Installation License (LI), which once granted, will enable construction of mine site infrastructure. CTM has already been granted an LP and LI for construction of a high-voltage powerline to service the site. CTM has secured possession of key properties required for development of the Jaguar project.

### **Green Credentials**

Jaguar's sulphate production pathway will produce nickel at a carbon cost of 7.27t of CO2 per tonne of nickel equivalent metal. This ranks Jaguar's nickel carbon footprint better than 94% of global peers. The production of low carbon footprint metals is becoming increasingly important against the backdrop of decarbonisation. We maintain that CTM will become an increasingly attractive investment proposition to OEM's seeking low greenhouse gas footprint metal and diversification of supply away from Indonesia.

### **Study Financial Outcomes**

Financial outcomes of the DFS include a post-tax NPV8 of US\$663M (A\$997M), IRR of 31% and capital payback of 2.7 years. Project outcomes include lowest quartile financial and greenhouse gas costs.

The Study estimates preproduction capital of US\$371M including US\$68M for mine prestrip. Ero Copper's nearby 4Mtpa throughput Tucuma copper project was recently completed at a cost of ~US310M, providing Argonaut with confidence of CTM's capital estimate.

The project benefits from a low-cost operating environment. Mining is expected to be completed by a 'mosquito fleet' of contractors. CTM will build a 38km long, 230kv transmission line to the nearby Onca Puma ferronickel operation, enabling connection to Brazil's national electricity grid. This will provide CTM with access to US\$3.5c/kwh low emission electricity.

CTM estimates a total C1 cost of US\$29.94/t milled or US\$2.30/lb of total contained nickel in concentrate (US\$3.03/lb payable Ni). Sustaining capital expenditure over life of mine is estimated at US\$237M. AISC over life of mine is US\$3.57/lb total nickel or US\$4.70 on a payable nickel basis. This cost profile positions Jaguar within the lowest AISC quartile of global nickel production

Applicable royalties include a 2% Government Royalty, a 2% royalty to original project vendor Vale, and a 1.8% Royalty due to the Brazilian National Development Bank. During the first 10-years the project will be subject to a discounted 15% tax rate. For year 11 the project is subject to a 34% cumulative tax rate.

CTM's assumes a life of mine long term nickel price of US\$19,800/t. Exchange rates for USD/BRL, AUD/BRL and EUR/BRL are estimated at 5.30, 3.50 and 5.80 respectively.

CTM's Jaguar Study estimated a post-tax NPV8 of US\$663M (A\$997M), IRR of 31%



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## BUY

Current Price	\$1.38
Valuation	\$2.80
TSR	103%

Ticker:			DEG
Sector:		Metals	& Mining
Shares on Issue (m):			2,396.8
Market Cap (\$m):			3,312.3
Cash Est. (\$m)			828.0
Debt Est. (\$m)			0.0
Enterprise Value (\$m):			2,484.3
52 wk High/Low:		\$1.53	\$1.01
12m Av Daily Vol (m):			5.985
Projects			Stage
Hemi	Definit	ive Feasib	ility Study
Mineral Resource	Mt		Au (Moz)
Hemi	296.0	1.33	12.7
Ore Reserve	Mt	Διι (σ/t)	Au (Moz)
Hemi	121.0	1.55	6.0
nem	121.0	1.55	0.0
Cashflows		2023	2024
Operating Cashflow		-12.6	-11.5
Investing Cashflow		-81.9	-288.5
Financing Cashflow		143.6	
Cash Balance		143.0	867.2
Cash Balance		112.7	867.2
Financial Summary	FY25E	FY26E	FY27E
Revenue (A\$m)	0	0	1617
Ebitda (A\$m)	-23	-20	936
Ebit (A\$m)	-23	-21	785
Earnings (A\$m)	-3	-14	1029
Capex (A\$m)	-504	-931	-51
Free CF (A\$m)	-23	-21	785
Gearing (%)	-52%	26%	-16%
Directors:			
Simon Lill	Non-	Executive	Chairman
Glenn Jardine		Managin	g Director
Peter Hood, AO	Nor	n-Executiv	e Director
Andrew Beckwith	Nor	n-Executiv	e Director
Paul Harvey	Nor	n-Executiv	e Director
Emma Scotney	Nor	n-Executiv	e Director
Substantial Shareholders:			%
Gold Road Resources			% 17.9%
BlackRock			9.6%
DIALKNULK			9.0%

#### Share Price Graph and Trading Volumes



## **De Grey Mining (DEG)**

**Hemi Gold Project** 

Analyst: Patrick Streater

### **Quick Read**

De Grey Mining (ASX:DEG) maintained steady progress this year at its Hemi Gold Project which is targeting first production in late CY2026. Once in production, Hemi will be a +530kozpa operation in arguably the world's best mining jurisdiction. Very few development assets can match Hemi on scale, margin, and jurisdiction. Hemi is in the final stages of financing with a debt package expected to be finalised by year-end and construction expected to commence CY2025. The Hemi DFS outlined a 12-year mine life for the project, but DEG continues to progress further growth options beyond the DFS. We think the endowment at Hemi and its satellite deposits will ultimately end up supporting a 20-year mine life at Hemi.

#### **Overview**

#### **Location and Tenure**

Hemi is located in the Pilbara region of WA, 85km south of Port Headland. The site is ideally located near existing infrastructure including sealed roads, gas pipelines, and grid power. Hemi is located on granted mining tenure with Native Title Agreements in place to commence mining. Receipt of full Federal approvals is expected in the March quarter, 2025 which would then allow full-scale construction to commence mid-to late CY2025.





Source: DEG

#### Rapid payback from Stage 1 Brolga pit

The Hemi DFS production profile is underpinned by a 6.0Moz open pit ore reserve grading 1.5g/t Au. Open pit production over an initial 12-year mine life will occur from six deposits across the 11.2Moz Hemi Resource. Early cash flow generation is supported by world-class mining physicals from the Brolga Stage 1 pit which contains 1.42Moz of contained gold grading 1.64g/t at a remarkably low 2.4:1 stripping ratio. At current spot gold prices, DEG is expecting a 12-month payback period on the A\$1,345M pre-production capital spend.

*Figure 33 - Cross section of the Brolga Stage 1 open pit highlighting impressive widths and grades.* 



At current Spot prices Hemi has a 12-month payback period

Source: DEG

*Figure 34 - Isometric view of the Brolga pit floor with ore blocks below transported cover.* 





Stage 1 of the Brolga Open Pit will be mining an ore zone up to 300m wide and over 550m long

#### Growth potential beyond the DFS

Hemi's DFS outlined a 12-year mine life, but we see clear growth options beyond the DFS production profile. Bringing online Regional Hemi deposits in year 4 of the mine life could boost the Hemi production profile to 680-700kozpa. DEG has also identified additional mine-life extensions from a cut-back of the Eagle deposit (Hemi) which would extend open pit mining at Hemi out to at least a 15-year mine-life. Additional growth options are also being considered from a Hemi Underground and setting up a third processing hub at the recently acquired Ashburton Project. Considering all these growth options we think Hemi ultimately ends up with a +20-year mine life for De Grey Mining.

We see several clear growth options at Hemi and the Greater Hemi area to support a +20-year mine life

Figure 35 - Hemi Project production profile with potential production upside.







Source: DEG

#### **Hemi Project Progress**

Development progress at Hemi over the last 12 months has included the ordering of long lead items for the comminution circuit and floatation circuits. Committed costs for these items came closely in line with DFS estimates with A\$169.3m of committed versus the DFS estimate of A\$168.6m.

DEG controls a 130km strike position of the Mallina Shear Zone with a known gold endowment of +13Moz


DEG's debt package is unlikely to require any hedging commitments

Financing for the project is nearing completion with DEG having received a number of credit-approved terms sheets from a range of leading domestic and offshore banks. We expect DEG will finalise its debt package by year-end with what's expected to be an A\$1.0B Senior Debt Facility with an A\$130m cost overrun facility. Importantly, it is expected the debt facility will not be contingent on any hedging requirements - a strong vindication of the project's financial resilience to generate early and significant cashflows.

### **Argonaut's Valuation**

Argonaut's De Grey valuation is based on a discounted cash flow valuation of the Hemi project incorporating the mining physicals provided in the September 2023 DFS release. A real, after-tax discount rate of 5% is used. We also include mining inventories reported in the Hemi Regional Scoping Study in our model. Our valuation assumes a total gold production of 5.7Moz at Hemi over a 12-year mine life with production commencing mid-2026. In addition to Hemi, we model a Hemi Regional total production of 817koz (142koz/pa, 6-years). We consider an A\$1.4B pre-production capex requirement for Hemi and A\$210M for Hemi Regional. Our model assumes no further equity raises are required to complete the development of Hemi.





Hemi's production profile and Tier 1 location should warrant M&A interest by a major

#### Source: Argonaut Research

Valuation	Spot Prices		Argonaut f	orecasts
Asset	A\$m	A\$/sh	A\$m	A\$sh
Hemi	5,852.9	2.44	3,945.0	1.64
Hemi Regional	766.3	0.32	351.9	0.15
Resources	460.2	0.19	354.8	0.15
Hedge book	0.0	0.00	0.0	0.00
Corporate overhead	(122.7)	(0.05)	(122.7)	(0.05)
Unpaid capital	0.0	0.00	0.0	0.00
Cash & term deposits	828.0	0.34	828.0	0.34
Debt	(1.7)	(0.00)	(1.7)	(0.00)
Total	7,783	3.24	5,355	2.23
Price Target (50/50 spot/base case)				2.75

Source: Argonaut Research



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### **SPEC BUY**

Current Price	\$2.26
Valuation	\$4.50
TSR	99%

Ticker:			DVP
Sector:		Meta	ls & Mining
Key Financials			271.4
Shares on Issue (m): Market Cap (\$m):			613.4
Cash Est. (\$m)			30.5
Debt Est. (\$m)			44.8
Enterprise Value (\$m):			627.7
52 wk High/Low:		\$3.08	\$1.88
12m Av Daily Vol (m):		·	0.679
Projects			Stage
Woodlawn		Re	developemt
Sulfur Springs		Pre-d	evelopment
Pioneer Dome		Pre-d	evelopment
Mineral Resource	Mt	Li2O (%)	Li2O (kt)
Cade	8.2	1.20%	98.5
Davy	2.2	1.03%	22.7
Heller	0.7	1.02%	7.2
Cashflows		2023	2024
Operating Cashflow Investing Cashflow		12.2 -38.6	11.0 -32.1
Financing Cashflow		-38.6	-32.1
Cash Balance		21.8	40.9
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	nm	7.0	4.3
EV/Ebit (x)	nm	4.8	3.4
EV/Ebitda (x)	23.2	4.0	2.8
FCF yield (%)	-8.6%	-5.6%	-15.5%
Financial Summary	FY25E	FY26E	FY27E
Revenue (A\$m)	231	528	764
Ebitda (A\$m)	28	172	277
Ebit (A\$m)	19	141	232
Earnings (A\$m)	7	91	149

#### Directors & Management: Bill Beament Managing Director Michael Blakiston Non-Executive Chairman Shirley In't Veld Non-Executive Director Justine Magee Non-Executive Director Ben Mackinnon CFO Elle Farris General Counsel & Secretary

Substantial Shareholders:%William Beament19.7%BlackRock5.30%





## Develop Global (DVP)

### Woodlawn Copper-Zinc Project

Analyst: Hayden Bairstow

### **Quick Read**

DVP has advanced the Woodlawn copper-zinc project in NSW to a production ready status, with <A\$50m in capital required to bring the project into operation. DVP has upgraded the resource at Woodlawn, underpinning a >10 year LOM and underground development and exploration has exposed >1.0mt of ore ready to be mined. First metal production and cash flow from the operation are expected in mid-CY25.

### **Overview**

### Location

Woodlawn is a high-grade zinc-copper-lead-gold-silver project located in the Lachlan Fold belt in New South Wales, 250km south-west of Sydney and 40km south of Goulburn. The Woodlawn mine operated from 1978 to 1998 and processed 13.8Mt of ore from the Woodlawn open pit, underground and minor satellite deposits. DVP acquired the Woodlawn mine in May 2022 for A\$30m upfront plus success-driven milestone payments and has since spend ~A\$60m on establishing new development headings underground. This investment has exposed >1.0mt of ore, that will underpin the first 18-24 months of production during the ramp up phase.

Figure 38: Woodlawn location map



Source: DVP

A rich polymetallic deposit



#### **Geology and Resources**

The Woodlawn deposit is a stratiform volcanogenic massive sulphide (VMS) deposit that is hosted within the central part of the mid Silurian to early Devonian Goulburn Basin: a deep water, back-arc basin which developed within Ordovician to early Silurian sediments of the Lachlan Fold Belt that hosts numerous metalliferous deposits. Woodlawn lies on the eastern limb of the asymmetric north-northwest plunging Woodlawn Syncline. Mineralisation for base metal (copper, zinc, lead) and precious metal (silver, gold) is hosted in regionally metamorphosed (greenschist facies) fine to coarse-grained felsic to intermediate volcanic rocks, volcanogenic sedimentary rocks and minor carbonaceous shale, known as the Woodlawn Volcanics

DVP has upgraded the Reserve and Resource for Woodlawn materially from time of acquisition. The project hosts a high-grade resource of 11.3Mt @ 1.8% Cu, 5.8% Zn, 2.1% Pb, 46gpt Ag & 0.5gpt Au and Reserves of 6.0Mt @ 1.5% Cu, 3.6% Zn, 1.3% Pb, 29.0gpt Ag & 0.4gpt Au.

#### Figure 39: Woodlawn Reserves and Resources

Reserves						
Project	Ore (mt)	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)
Woodlawn	6.0	1.48%	1.27%	3.58%	0.43	28.95
Resources						
Project	Ore (mt)	Cu (%)	Pb (%)	Zn (%)	Au (g/t)	Ag (g/t)
Woodlawn	11.3	1.78%	2.13%	5.82%	0.49	45.96

Source: DVP, Argonaut Research

We expect DVP to continue to undertake drilling at Woodlawn. Most of the main mineralised lenses remain open at depth and offer potential to extend the resource base and mine life at Woodlawn.





Source: DVP, Argonaut Research

#### Multiple lenses of mineralisation

We assume a 850ktpa throughput



### Woodlawn ready to go

#### Upgrades to the process infrastructure

Since acquiring the Woodlawn project, DVP has made several improvements to the process plant, which was newly constructed by Heron Resources. The capacity is unchanged at 850kt, with the thickener that was installed to reprocess tailings to aid in water recycling. The 3MW Isa Mill was also removed, with the Metso SMD regrind mills providing similar outcomes at improved copper recovery

#### **GR Engineering upgrading plant** Funding and offtake for the Woodlawn project has progressed and GR Engineering Services is advancing the upgrade and recommissioning of the Woodlawn processing plant. Underground development has also resumed in August and first ore production is expected in 3QFY25; with first metal production and cashflows targeted for mid-CY25

#### Figure 41: Newly built process infrastructure



Source: DVP, Argonaut Research

Our development scenario for the Woodlawn project broadly matches the updated mine plan released by DVP. We assume a rapid ramp up to the 850ktpa mill throughput rate and assume a flat copper grade over the life of the project. Our varying zinc grade profile broadly matches the updated mine plan as do our metallurgical recovery rates.



#### Figure 42: Zinc grades vary more than copper

Source: DVP, Argonaut Research

#### We forecast Woodlawn to produce ~10ktpa of copper

Our development scenario generates annual copper in concentrate production of ~10ktpa. The varied zinc grade profile results in zinc in concentrate production ranging from 28-38ktpa. Woodlawn also produced lead, silver, and gold as modest by-product credits. The varying AISC profile reflects changes in by-product revenue. Importantly, underground development for the first two years of production has been completed, as has grade control drilling. DVP has indicated it has re-designed the mine plan, moving development 200m below the stoping front. The decline path has also been moved away from remnant areas of the mine.





## Variable AISC reflects byproduct revenue

**Funded for production** 

Source: DVP, Argonaut Research

#### **Funded for production**

The project has a modest re-start capital requirement of A\$49m. In 1QFY25 DVP secured a A\$100m facility (and accompanying 5-year offtake) with Trafigura and settled the Final Investment Decision (FID) Milestone Payment of A\$20m. As part of the funding, DVP has also agreed to a ~5 year offtake agreement across all concentrates produced from the Woodlawn mine and has flexibility to allocate up to 20% of volumes to a minority partner.

#### Figure 44: Woodlawn key study outcomes

		July 24 Update	April 2024 Release
Pre-Tax NPV <sub>7%</sub> <sup>1</sup>	A\$M	728	658
Payback	Mths	23	24
Free Cash-flow	A\$M	1,101	1,003
Maximum Cash Down	A\$M	78	67
	There are a series of the seri		A CONTRACTOR OF THE OWNER
		July 24 Update	April 2024 Release
Construction Capital	A\$M	49	42
Construction Capital Mining Capital	A\$M A\$M	49 7	42 0
		49 7 22	
Mining Capital	A\$M	7	0

Source: DVP, Argonaut Research



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### **SPEC BUY**

Current Price	\$1.13
Valuation	\$1.95
TSR	73%

Ticker:			FFM
Sector:		Metals	& Mining
Shares on Issue (m):			561.8
Market Cap (\$m):			632.0
Cash Est. (\$m):			88.0
Debt Est. (\$m):			0.0
Enterprise Value (\$m):			544.0
52 wk High/Low:		\$1.31	\$0.46
12m Av Daily Vol (m):			1.839
Projects			Stage
Green Bay	Ν	/line Redev	elopment
Pickle Crow			Resource
		<b>e</b> (e()	
Mineral Resource	Mt	Cu (%)	Au (g/t)
Ming	30.1 7.9	1.85% 1.92%	0.36 0.07
Little Deer Whalesback	7.9 1.15	1.92%	0.07
Pickle Crow	11.15	1.7270	7.20
	11.5		7.20
Cashflows		2023	2024
Operating Cashflow		1.2	-13.8
Investing Cashflow		-17.6	-61.5
Financing Cashflow		8.9	107.6
Cash Balance		6.0	37.8
Financials	FY32E	FY33E	FY34E
Revenues (A\$m)	859	885	911
Crown Drod	FY32E	FY33E	FY34E
Group Prod. Copper kt	45.9	45.9	45.9
C1 Net BP lb	43.3	43.3	43.3
	2.7	2	2.7
Directors:			
Steve Parsons		Managin	g Director
Kevin Tomlinson	Non	-Executive	
Michael Naylor			e Director
Jessie Liu-Ernsting		n-Executiv	
Renee Roberts	No	on-Executiv	
David Southam			Advisor
Substantial Shareholde	rc.		%
Substantial Shareholde			70

#### Share Price Graph and Trading Volumes

BlackRock



## Firefly Metals (FFM)

### **Green Bay Copper-Gold Project**

Analyst: George Ross

### **Project Acquisition & Tenure**

On the 31st of August 2023, FFM announced it had entered into a transaction to acquire The Green Bay Cu-Au project, located in Newfoundland, Canada from administrators of Rambler Metals and Mining PLC. Green Bay includes the suspended Ming Mine, Little Deer Complex and Nugget Pond processing facility. Rambler had run the mine as a sub-optimal scale 500ktpa operation with ore treatment at the distant Nugget Pond Mill. FFM's plans to redevelop the Ming Mine as a large underground operation with a purpose-built processing plant.

Existing infrastructure including underground development, processing, port, camp and other is estimated to be worth in excess of A\$250M. The region is strongly supportive of primary industries including the mining sector. Hydroelectricity is available from the grid at 7.4c/kwh.

To secure the asset, FFM agreed to pay Rambler's liquidators a total consideration of A\$65M. This included a Stage One payment of A\$35M in cash plus A\$15M in shares (600M shares priced at A\$0.025). A further deferred cash payment of A\$7.5M and A\$7.5M in shares (10-day VWAP) is due no later than 18-months from completion of the transaction.

In November 2024, FFM announced it had entered into a binding agreement to acquire the complementary Tilt Cover copper-gold exploration project from vendor TSX-V listed Signal Gold (Not Covered/Not Rating).





Source: FFM

13.1%



### Ming Geology & Infrastructure

The Ming deposit is an Ordovician aged, high-grade copper-gold Volcanogenic Massive Sulphide (VMS) style system located ~9km east of the township of Baie Verte, Newfoundland. The deposit comprises an Upper Zone of multiple tabular copper-gold rich Massive Sulphide horizons underlain by an extensive broad copper stockwork zone, known as the Lower Footwall Zone (LFWZ). In places, the LFWZ exceeds 100m in width and vertical extent. The Ming Mine is open and accessible to 950m depth below surface and FFM is currently developing an exploration drive to test the lower continuation of mineralisation. Recently completed downhole EM geophysics strongly suggest both the upper high-grade VMS zones and lower footwall zone extend at least a further 500 metres down plunge from the deepest hole reported to date.

#### Figure 46: Ming mine drill hole intercepts from unmined areas.



Source: FFM

*Figure 47: Ming Mine cross section through the 900m level with unmined high grade massive sulphide upper zones and FWSZ examples shown.* 



Source: FFM

Ming deposit key to redevelopment of Green Bay

Lower footwall zone contains large tonnages of mineralisation



New exploration decline allows drilling of orebody extensions

#### Figure 48: FFM's underground development plans.



Source: FFM

In September 2024, Argonaut completed a site visit to Ming. We toured surface facilities including staff offices, the mess, workshops, water treatment plant, waste dumps, ROM pad and drill core logging facilities.

#### Figure 49: Overview map of Ming Mine Surface infrastructure.



Source: FFM

#### Ming MRE Update

Green Bay MRE now 59Mt grading 2.0% Cu

At the end of October 2024, FFM reported an updated MRE for the Ming Mine area. The updated MRE incorporates more than 40,000m of new drilling and is reported at a headline figure of 50Mt grading 2.0% CuEq (1.7% Cu, 0.36g/t Au, 2.9g/t Ag) for 972kt CuEq metal (825k Cu, 528koz Au and 4.6Moz Ag). At a 1% Cu cut-off the global Green Bay MRE is now reported as 58.9Mt at 2.0% CuEq. At a 0.5% Cu cut-off the estimate balloons to 93.9Mt grading 1.6% CuEq, underlying the potential bulk mining opportunity.

#### Table 8: Green Bay global MRE.

	N	IEASUREI	2	I	NDICATE	D	I	NFERRED		тот	AL RESOU	JRCE
	Tonnes	Grade	Metal	Tonnes	Grade	Metal	Tonnes	Grade	Metal	Tonnes	Grade	Metal
Copper		1.7%	77kt		1.7%	328kt		1.7%	592kt		1.7%	997kt
Gold	4.7Mt	0.3g/t	45koz	19.7Mt	0.2g/t	154koz	34.5Mt	0.3g/t	348koz	58.9Mt	0.3g/t	547koz
Silver		2.3g/t	0.3Moz		2.6g/t	1.6Moz		3.1g/t	3.4Moz		2.8g/t	5.4Moz
CuEq	4.7Mt	1.9%	89kt	19.7Mt	1.9%	371kt	34.5Mt	2.0%	690kt	58.9Mt	2.0%	1,150kt

Source: FFM





Figure 50: 2024 Ming Mine Resource projected view.

Source: FFM

### **Argonaut Development Scenario**

Argonaut's Green Bay development scenario includes ore feed from an expanded Ming Mine with processing at an adjacent, purpose built, milling and flotation plant. Our development model includes an initial capacity of 1.8Mtpa, eventually scaling up to 3Mtpa. This reduced scale start avoids triggering re-permitting of the operation. Our diluted inventory has been updated from 40mt at 1.65% Cu, 0.35g/t Au, 2.5g/t Ag to 50mt grading 1.50% Cu, 0.30g/t Au, 2.5g/t Ag. While it is possible FFM will identify open pit mineable resources, for the moment we focus exclusively upon underground potential. At full scale, the operation would be capable of producing 40kt of copper per annum.

FFM should be able to leverage existing infrastructure to minimize costs. We assume a 24month build period with construction starting in July 2026 at a total cost of US\$300M for the initial 1.8Mtpa plant, associated infrastructure and mine upgrade. We budget a 1.2Mtpa plant expansion costing US\$100M with ramp-up from the tenth quarter of restart. Under our base case parameters, we estimate a Green Bay Build Date Post-Tax NPV of US\$761M and assuming construction start in January 2026, a Present-Day Post-Tax NPV of US\$641M.





Source: FFM

### Better grades emerging with depth

Our development scenario assumes an initial 1.8Mtpa capacity scaling up to 3.0Mtpa



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## Not Covered / No Rating

Ticker: Sector:	Metal	MEI s & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m) Debt Est. (\$m) Enterprise Value (\$m):		<b>2,298.7</b> <b>252.9</b> 35.6 0.0 <b>217.3</b>
52 wk High/Low:	\$0.29	\$0.09
12m Av Daily Vol (m):		5.333
Projects Caldeira	Pre-Feasi	Stage bility Study
Mineral Resource	Mt T	REO (ppm)
Caldeira	740.0	2572.00
Cashflows	2023	2024
Operating Cashflow	-16.5	-33.9
Investing Cashflow	3.9	26.5
Financing Cashflow	28.3	5.2
Cash Balance	17.3	13.9

#### Directors & Management:

Dr Andrew Tunks	Executive Chairman
Nick Holthouse	CEO
Dr Marcelo De Carvalho	Executive Director
Paul Kitto	Non-Executive Director
Peter Gundy	Non-Executive Director
Dr Nomi Prins	Non-Executive Director
Stuart Gale	CFO
Matthew Foy	Secretary

7.8%



#### Share Price Graph and Trading Volumes



## **Meteoric Resources (MEI)**

**Caldeira REE Project** 

Analyst: George Ross

### **Quick Read**

Due to its scale and grade, we consider Meteoric Resources (MEI) Brazilian Caldeira Ionic Rare Earth Element Project a global standout. Positive outcomes from Scoping Studies in 2024 have been complemented by permitting progression and MOU's with potential downstream users.

### **Project Overview**

#### Location, History & Tenure

Caldeira is located in the Brazilian State of Minas Gerais, approximately 200km north of the city of São Paulo. MEI formerly acquired the project following the signing of a definitive agreement with Togni Group of Companies in March 2023. The Caldeira project area was drilled by previous owner JOGMEC between 2016-2019. The Project includes rare earth element (REE) rights over 51 licenses (Mining Requests and Concessions).

Figure 52: MEI's Caldeira tenement position, extent of drilling and topographic features.



Source: MEI

#### Geology, Resource & Ionic Clay Advantage

Caldeira mineralisation is ionic clay in style. Economic mineralisation was formed through ongoing surficial weathering of REE enriched intrusive and volcanic members of the Poços de Caldas Intrusive Complex. At Caldeira, REEs have been concentrated to exceptional grades and widths compared to other well-known ionic clay style deposits.

Figure 53: Illustrative cross section of Caldeira deposit formation model.



weathering of an intrusive

Caldeira formed through

Source: MEI

The Caldeira global MRE is reported as a headline 270Mt grading 2,363ppm TREO (Total Rare Earth Oxides). This includes a high-grade component at the Figueira area of 47Mt grading 4,763ppm TREO. Argonaut anticipates this resource will grow in scale, with only around 20% of the total tenure area drill tested to date (Figure 52). Caldeira's payable REE basket is dominated by light magnet elements praesidium and neodymium with less terbium and dysprosium (24% MREO/TREO).





Source: MEI

Caldeira's ionic clay style REE mineralisation is to be free dig mined and then processed through rapid ambient temperature/pressure leaching. This contrasts with conventional light-REE monazite and bastnaesite deposits which required hard rock mining techniques and in processing utilise complex flotation and 'cracking' modules (heat & aggressive acid leaching) to achieve a mixed rare earth carbonate product. Ongoing metallurgical test work programs have achieved an average Nd-Pr leach recoveries of 73-74% from oxidised clays utilising an ammonium sulphate wash.

## High grades of light rare earth elements near surface





Figure 55: Capão do Mel block model plan view with drill locations.

Source: MEI

### **Scoping Study Outcomes**

The Caldeira Project Scoping Study was released in July of 2024 and was revised for an updated Figueira MRE in October. Initial capital cost requirements are estimated to be US\$297M (excluding contingency). The Study envisages a 20-year project with an initial ~5Mtpa throughput with an average ore grade of 4,591ppm TREO.

Ore would be free dig shovel mined at an average strip ratio of around 0.12:1 and sourced from pits no more than 25-30m below natural surface. This ore would then be hauled to the process plant and stockpiled. Haulage trucks would be loaded with treated clay tailings and returned to fill open pits.

Mineralised ore would be slurried with treated and intermediate recycle solutions and then delivered to an agitated leaching circuit. The leach circuit would use Ammonia Sulphate as a lixiviant at pH 4 under ambient temperature and pressure with a leach time of less than 30 minutes. The resultant slurry would then be washed in CCD thickeners before being filtered to produce a filter cake (which will be stacked for final disposal) and a pregnant rare earth element leach solution (PLS).

The PLS would then be treated to precipitate impurities such as aluminium and iron. The PLS would then be clarified in dynamic bed clarifiers before being advanced to the product precipitation circuit. Following dewatering via a filter press, the wet mixed rare earth carbonate (MREC) would be fed into a drying stage before being packed for delivery to port.

As scoped, the project would produce approximately 9.7kt of TREO in MREC per year. MEI assumes an average rare earth element payability of 70%. Utilising discounted Adamas US\$111/kg Nd-Pr pricing, MEI's updated Caldeira Study generates a Post Tax NPV(8) of US\$804M and IRR of 29%. Incorporating Spot Nd-Pr pricing of US\$60/kg the project generates a Post Tax NPV(8) of US\$174M and IRR of 15%.

At US\$111/kg Nd-Pr pricing, MEI updated Caldeira Study generates a Post Tax NPV(8) of US\$804M and IRR of 29%.



Figure 56: Revenue outcomes for the Caldeira revised Scoping Study.

Strong revenues across a range of pricing assumptions

Source: MEI

### Permitting

Meteoric has lodged the Caldeira Environmental Impact Statement (EIS) with the Minas Gerais State Secretariat for the Environment and Sustainable Development (SEMAD) in Minas Gerais. The EIS relates to a development incorporating the Soberbo, Capão do Mel and Figuera licenses. Full permitting of the project is expected to take two years.

### **MOU with Ucore Rare Metals**

In August, MEI reported it had signed an MOU with TSXV listed Ucore Rare Metals Inc. (Not Covered / No Rating) for the supply of 3,000 metric tonnes of TREO from the Caldeira Project. Ucore is a Canadian public company headquartered in Halifax, Nova Scotia, with a transformational rare earth separation technology, RapidSX. Ucore is working towards development of a commercial scale Strategic Metals Complex (SMC) in Louisiana.

MOU's with Ucore and SENAI-Lab Fab MEI and Ucore have agreed to working towards establishing a binding definitive agreement for the supply of MREC from Caldeira to the Louisiana SMC. Once the Parties are in production, they envision that Ucore will purchase a minimum quantity of 3,000Mt of TREO annually from the Caldeira project.

### **MOU with SENAI - Lab Fab**

MEI has also signed an MOU with SENAI Regional Department of Minas Gerais, owner of the permanent magnet facility unit Lab Fab. Lab Fab is the first permanent magnet maker facility in Latin America, and the two parties are collaborating to explore the production of rare earth magnets. The facility will begin operation later this year, with initial capacity to produce 100 tonnes of permanent magnets per year. FIEMG's plan is to double that capacity within the first 3 years.



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### **SPEC BUY**

Current Price	\$0.019
Valuation	\$0.055
TSR	189%

Ticker: Sector:		Meta	NTU Is & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m) Debt Est. (\$m) Enterprise Value (\$m):			8,038.6 152.7 16.8 0.0 135.9
52 wk High/Low: 12m Av Daily Vol (m):		\$0.047	\$0.019 7.537
Projects Browns Range			<b>Stage</b> Studies
Mineral Resource Browns Range	<b>Mt</b> 10.8	<b>TREO (%)</b> 0.76%	<b>TREO (kt)</b> 81.5
Cashflows		2023	2024
Operating Cashflow		-5.1	-27.5
Investing Cashflow		-10.0	0.0
Financing Cashflow		21.0	23.8
Cash Balance		11.6	8.7
Key Metrics	FY27E	FY28E	FY29E
P/E (x)	0.0	7.1	6.3
EV/EBITDA (x)	4.3	1.3	1.4
Financials	FY27E	FY28E	FY29E
Revenue (\$M)	73	311	369
EBIT (\$M)	19	111	108
NPAT (A\$M)	-10	59	67

#### Directors & Management:

Adam Handley	Executive Chairmar
Shane Hartwig	Managing Director & CEC
Bin Cai	Executive Director
Liangbing Yu	Non-Executive Director
Cubatantial Chavahala	lore

Substantial Shareholders:	%
Vastness Invetment Group	6.3%
Hong Kong Ying Tak	7.7%
Qogir Trading	7.4%





## Northern Minerals (NTU)

### **Browns Range Heavy REE Project**

Analyst: George Ross

### **Quick Read**

The Browns Range Rare Earth Element (REE) project is located in northern Western Australia, near the Northern Territory border. The unusual xenotime mineralization hosted at Browns Range is enriched in high-value heavy rare earth elements (HREE) dysprosium (Dy) and terbium (Tb). Both elements are considered critical for a wide range of advanced technology applications. The partnership with Iluka provides a lower-risk development pathway forward.

### **Overview**

#### **Location & Tenure**

The Browns Range project is located in the East Kimberley region of Western Australia, approximately 160km southeast of the town of Halls Creek near the Northern Territory border. NTU's tenure position covers a total area of approximately 2,750km<sup>2</sup>, within tenements located in both Western Australia and the Northern Territory. To date, the majority of both exploration and development work has been completed within Western Australia.

#### **Geology & Resources**

Rare earth mineralisation at the Wolverine and other Browns Range deposits is predominantly associated with the mineral Xenotime. Naturally occurring economic accumulations of xenotime are extremely rare, making the Browns Range mineral system relatively unique. Wolverine is a structurally controlled, hydrothermal vein-breccia system. The deposit has a known strike length of 650 meters, with mineralized widths reaching up to 30 meters and a dip/plunge length of over 550 meters.

Figure 57: Xenotime mineralisation in drill core (Salmon pink colour).



Source: Argonaut



Within the overall mineralization envelope, the highest grade of mineralization is found within a central zone with a strike length ranging from 120 to 250 meters, and the grade of Rare Earth Oxides (REO) generally decreases away from this central zone. Recent deep drilling completed in 2023 indicates that the Wolverine ore body's plunge continues at depth, suggesting the extension of the existing Mineral Resource Estimate (MRE) is likely.

## Wolverine extends at least 550m below surface

The project currently hosts total Mineral Resources Estimates totalling 10.8 Mt and grading 0.76% Total Rare Earth Element Oxides (TREO) for 82kt of contained TREO. Wolverine is the largest defined deposit and hosts an MRE of 6.44Mt grading 0.96% TREO. An update to the Resource is scheduled prior to the end of 2024. The update will include new drill hole results and revised modelling parameters.

Wolverine ore is amenable to ore sorting beneficiation, magnetic separation and flotation processing. The processing performance is well understood due to a three-year trial period of open-pit mining and pilot-scale processing.



Figure 58: Wolverine deposit cross section with new drill hole intervals.

Source: NTU



NTU is pursuing a revised strategy

that reduces technical risk

### **Revised Browns Range Strategy**

A strategic review of the Brown's Range Project in 2022 prompted a pivot in development approach. Rather than develop Browns Range as an integrated mine and refinery, NTU would instead produce a xenotime mineral concentrate for sale to ILU for processing at its Eneabba REE refinery. NTU aims to complete the Definitive Feasibility Study (DFS) for the Wolverine Project is scheduled for released in Q3 of FY2025.





Source: NTU

This strategy reduces financial and technical risk for NTU by eliminating the need to construct and operate a dedicated hydrometallurgical refinery. Instead, NTU will restrict its activities to mining, ore sorting, magnetic separation and flotation beneficiation (Figure 60). A particular benefit of the deal is that NTU is insulated from downstream processing risk, which will be ILU's responsibility.



#### Figure 60: Proposed NTU Browns Range operational process flowsheet.

Source: NTU

NTU plans to produce a mineral concentrate with processing to be completed at the yet to be built lluka's Enabba refinery Strategic partnership with Iluka

key to future success



Mining activities at the Browns Range Project will begin with the exploitation of the Wolverine deposit. The initial phase is planned to span over 8+ years, during which approximately 910,000 tonnes per annum (ktpa) of ore will be extracted using both opencut and sub-level retreat underground mining methods. After the exhaustion of the Wolverine deposit, it is expected that mining operations will continue at other Browns Range deposits, thereby extending the overall life of the project.

### Iluka Strategic Partnership

Following ramp-up, NTU has entered into an agreement to supply Iluka (ILU) with up to 5,500 tonnes of Browns Range total rare earth oxides in concentrate annually. According to the agreement, NTU is obligated to sell and deliver 100% of the product produced to ILU. Additionally, ILU holds the right of first refusal for any excess material (above 5,500 tonnes) that NTU produces each year. However, if ILU decides not to exercise this right, NTU is free to sell the excess material to other buyers.

### **Exploration Upside**

Beyond the immediate extensions of existing ore bodies, significant opportunities exist for identification of new deposits within the regional tenure portfolio. New access to previously inaccessible areas within the Northern Territory could unlock a series of new discoveries within other parts of the Browns Range Dome.

#### Figure 61: NTU's combined WA and NT tenure portfolio.





NTU controls the Brown's Range Dome in both WA and the NT



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### **SPEC BUY**

Current Price	\$0.021
Valuation	\$0.060
TSR	186%

Ticker: Sector:		Metals	NWC & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m): Debt Est. (\$m): Enterprise Value (\$m):			<b>2,840.3</b> <b>59.6</b> 11.1 0.0 <b>48.5</b>
52 wk High/Low: 12m Av Daily Vol (m):		\$0.047	\$0.017 4.411
Projects			Stage
Antler Javelin		Early E	Scoping ploration
Antler Resources	Mt	Cu (%)	Au (g/t)
Indicated	9.1	2.25%	0.40
Inferred	2.4	1.55%	0.17
Total	11.4	2.10%	0.36
Cashflows		2023	2024
Operating Cashflow		-1.3	-2.1
Investing Cashflow		-15.6	-7.0
Financing Cashflow		15.1	23.9
Cash Balance		2.6	17.4
Key Metrics	FY28E	FY29E	FY30E
P/E (x)	15.2	3.2	3.1
EV/EBITDA (x)	-3.0	-0.8	-0.4
Financials	FY28E	FY29E	FY30E
Revenues (A\$m)	268	420	419
Ebit (A\$m)	50	165	168
Earnings (A\$m)	18	87	91
<b>Group Prod.</b> Copper kt	<b>FY28E</b> 9.9	<b>FY29E</b> 15.8	<b>FY30E</b> 15.8
Directors: Richard Hill			Chairman
Nick Woolrych	Mar	naging Dire	
Tony Polglase		on-Executiv	
Mile Hermon	NI	Executiv	e Director

Vike Haynes	Non-Executive Director
an Cunningham	Company Secretary
Substantial Shareholders:	%
Resource Capital Funds	6.9%

Resource Capital Funds	6.9%
Ponderosa Investments WA	6.0%
Paradice Investment Management	0.049



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## New World Resources (NWC)

### Antler Cu-Zn-Au-Ag Project

Analyst: George Ross

### **Quick Read**

The Antler deposit represents one of a handful of undeveloped high-grade copper deposits within a top tier mining jurisdiction. Exploration programs completed since 2020 by New World Resources (NWC) have delineated extensive polymetallic mineralisation beneath historical workings.

### **Location & History**

The Antler project is located 200km south-east of Las Vegas. NWC controls a package of over 240 unpatented and patented mining claims. The deposit is volcanogenic massive sulphide in style, and is enriched in copper, zinc, lead, gold and silver. Volcanogenic mineralisation was discovered at Antler in 1879 and sporadically mined from 1916 through to 1970 for 70kt of copper-zinc ore grading 2.9% Cu & 6.2% Zn. Argonaut visited site in October 2023.

### **Geology & Resource**

Antler is a high-grade polymetallic VMS type deposit which outcrops over 750m of northeast strike and dips 60° to the north-west. The deposit has close association with altered lenses of amphibolite and is hosted within deformed and altered quartzo-felspathic schist. Fibrous minerals occur in the hanging-wall of the deposit and will need to be managed with appropriate procedures.

Mineralisation occurs as a series of staggered high-grade shoots (Figure 62), linked by attenuated lodes. Primary mineralisation contains a selection of sulphide minerals with high abundances of copper, zinc, lead, silver and gold. Drilling program since 2020 led to the discovery of increasing width and better grade mineralisation down plunge of the Main Shoot workings and recognition of the previously unidentified South Shoot. The current Antler MRE is reported as 11.4Mt @ 2.1% Cu, 5.0% Zn, 0.9% Pb, 32.9g/t Ag and 0.36g/t Au (4.1% CuEq). 79% of total material is classified as Indicated. The north end of the Resource is constrained by the down plunge extrusion of the Antler mineral licenses. Mineralisation continues into the Federal Lands to the north.

### Permitting

The Mine Plan of Operations (MPO) was submitted to the Bureau of Land Management in January of 2024. The MPO is currently undergoing a completeness review, enabling progression through an EIS or EA approval framework.

NWC has submitted applications for an Aquifer Protection Permit (APP) and Air Quality Permit (AQP) to the Arizona Department of Environmental Quality (ADEQ). Upon grant (expected 1HCY25), the AQP will enable construction of the Antler project to proceed. The APP is expected to have the longest approval lead time and is required to ensure the



Antler facilities are designed and operated to meet all State and Federal laws and regulations relating to groundwater management and protection. The statutory timeline for processing of the APP is less than a year, hence grant is expected in 2HCY25.



*Figure 62: Long section of the Antler deposit with significant intercepts and CuEq gradethickness contours.* 

Source: NWC

### **PFS Outcomes**

NWC's Antler PFS reports a Post-Tax NPV7 of US\$636M/A\$929M with upfront capital requirements of US\$298M including US\$31M in contingency. Antler's C1 Cu Cash cost net of byproducts is estimated at US\$0.12/lb Cu and AISC net of byproducts is estimated at US\$0.51/lb.

The study outlines a 12-year, 1.2Mtpa operation for production of 16.4kt of payable copper metal in concentrate per annum. Average annual byproduct metal production is estimated at 34.5kt Zn, 3.6kt Pb, 533koz Ag and 6koz Au. The Antler deposit will be developed as an underground mine, with a purpose-built decline. Development of the 5.5 x 5.8m decline would be completed by year four with ore mining scheduled across multiple levels throughout life of mine. Ore will be mined across four panels via sub-level

High grade mineralisation open and extending at depth

PFS reports a Post-Tax NPV7 of US\$636M/A\$929M



open stoping with paste backfill. Approximately 300kt of ore will be mined and stockpiled prior to commencement of processing. The maiden Reserve is reported as 11 Mt @ 1.6% Cu, 3.7% Zn, 0.6% Pb, 26 g/t Ag and 0.3 g/t Au (3% CuEq).

Figure 63: LOM mining schedule on scheduled year basis.



Source: NWC

#### **Metallurgy & Processing**

Ore will be processed within a conventional comminution and multistage flotation plant for production of three separate copper, zinc and lead concentrates. Production of three concentrates will enable realisation of the maximum value of contained metals. A fourth pyrite/pyrrhotite concentrate may also be produced for sale. This would provide modest revenues, however, would provide the benefit of reducing the acid forming potential of plant tailings. The economic benefits of this option are not captured within the current development plan. A portion of the tailings will be returned to stope voids as paste fill. The remaining tailings will be disposed of within a dry stack tailings facility located adjacent to the mine.





Source: NWC

Maiden Reserve reported as 11 Mt @ 1.6% Cu, 3.7% Zn, 0.6% Pb, 26 g/t Ag and 0.3 g/t Au (3% CuEq)

### Three separate saleable concentrates

Capital requirements could be

partially met with grant funding



### **Potential Sources of Project Funding**

The Antler project remains unencumbered by offtake agreements. This provides NWC with the opportunity to complete funding deals with metal traders or downstream users of Antler concentrate. Depending on the ultimate destination of metal product, NWC may also be eligible to tap IRA or other US government sources of funding to back development. We note that two copper smelters are located within Arizona and a third in Utah. Precious metal streaming may provide yet another avenue of funding.

Argonaut views the recent election of Donald Trump's Republican party to be a positive for NWC's Antler development aspirations. We expect Trump to strongly support US domestic economic development including mining. This could involve streamlining of permitting and/or economic benefits.

### **Project Upside**

NWC's regional tenement position offers opportunity for further discovery with geochemical & geophysical data being integrated for exploration targeting. VMS style deposits frequently occur in camps. Confirmation of a second mineable deposit within the project area could enable development of a project with greater scale. The Antler Ore body currently terminates at the northern boundary with Federal Lands. This may present an opportunity for Resource and Reserve expansion in the long term.

#### Figure 65: Antler copper soil geochemistry results.



Source: NWC

**Regional upside remains** 



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## **SPEC BUY**

Current Price	\$11.69
Valuation	\$14.35
TSR	23%

Ticker:	ASX:NXG	, NYSE:NXE,	TSX:NXE
Sector:		Metals	& Mining
Channes and Jacobs (ms).			565.0
Shares on Issue (m): Market Cap (\$m):			6,604.8
Cash Est. (\$m)			538.0
Debt Est. (\$m)			430.0
Enterprise Value (\$m):			6,496.8
··· · · · · · · · · · · · · · · · · ·			.,
52 wk High/Low:		\$13.45	\$7.93
12m Av Daily Vol (m):			0.389
Projects			Stage
Rook I		Pro-Dov	elopment
NOOKT		TTE-DEV	elopment
Ore Reserves	Mt	U308%	Mlb
Probable	4.6	2.37%	240.0
Cashflows		2023	2024
Operating Cashflow (C\$r	m)	-24.0	-62.3
Investing Cashflow (C\$m		-75.4	-178.7
Financing Cashflow (C\$n	n)	23.7	415.3
Cash Balance (C\$m)		146.3	323.1
Key Metrics	FY29E	FY30E	FY31E
P/E (x)	2.6	2.3	3.3
EV/EBITDA (x)	1.8	2.5	3.0
	1.0	2.5	5.0
Financials	FY29E	FY30E	FY31E
Revenues (C\$m)	2757	3044	2925
Ebit (C\$m)	1643	1913	1811
Earnings (C\$m)	1539	1772	1231
Group Prod.	FY29E	FY30E	FY31E
U308 Mlb	26.7	29.4	27.5

#### Directors & Management:

Christopher McFadden	Non-Executive Chairman
Leigh Curyer	President and CEO
Warren Gilman	Non-Executive Director
Karri Howlett	Executive Director
Brad Wall	Non-Executive Director
Richard Patricio	Non-Executive Director
Trevor Thiele	Non-Executive Director
Sybil Veenman	Non-Executive Director
Don Roberts	Non-Executive Director
Ivan Mullany	Non-Executive Director

Substantial Shareholders:	%
L1 Capital	4.5%
Mega Uranium	3.6%
Fidelity	3.5%
Global X Management	3.40%



## NexGen Energy (NXG)

### **Rook I Uranium Project**

Analyst: George Ross

### **Quick Read**

The advanced Rook I development is well timed to benefit from strengthened uranium prices and improved global sentiment towards nuclear power. The shear controlled, high-grade Arrow Resource hosted in stable crystalline basement offers technical advantages over typical Athabasca Basin unconformity deposits that are hosted in wet sediments and require ground freezing. When developed Rook I will be capable of producing up to ~29 Mlbs of U3O8 in yellowcake product per annum over its first five years of operation.

### **Project Location**

Rook I is located just outside of the south-eastern boundary of the Athabasca Basin, Saskatchewan, Canada. A benefit of Rook I's location is the absence of competing commercial ventures. The harsh weather in this part of the world impairs vegetation growth, rendering the area largely unsuitable for commercial farming.

The Athabasca Basin region is regarded as one the world's great uranium provinces and hosts the famous McArthur River and Cigar Lake high grade mines. Unlike these deposits, NXG's Arrow Resource is hosted within competent crystalline basement rocks, older than overlying semi-consolidated Athabasca Sandstone basin sediments.

*Figure 66: Location of NXG's Arrow deposit and regional project areas relative to other regional uranium operations.* 







*Figure 67: Schematic section with setting of different uranium deposits within the Athabasca basin area. Note non-linear vertical depth scale.* 

*Figure 68: Arrow deposit Resource model with individual shear zone domains (coloured). Relative size of the CN Tower (Toronto) shown for scale.* 



Source: NXG

### **Proposed Development**

In February of 2021, NXG released a Feasibility Study for development of the Arrow Resource within the Rook I project. The study envisages an initial 11-year mine life, producing a total of 233Mlb of U3O8 from Mineral Reserves totalling 4.58Mt grading 2.37% U3O8. At a spot uranium price of US\$82/lb Argonaut estimates a current day NPV of A\$6.8B.

#### Infrastructure

Surface infrastructure will include the mill, batch plant, waste rock stockpiles, camp and airstrip. Tailings will be stored in a multichambered underground tailings management facility located to the north-west of the underground development.

## Arrow is a bit different to most other Athabasca Basin deposits

The deposit remains open along strike and at depth

The Rook I feasibility study was released in 2021



Under the current development scenario, mine access will be provided via an 8m diameter Production shaft and 5.5m Exhaust shaft. Sinking of the shafts will occur through a shallow sequence of saturated overburden that will be temporarily artificially frozen for development.

#### **Mining & Processing**

Approximately 1,300 tonnes of ore will be mined per day via longhole underground mining methods across up to five fronts. The mine will have 13 levels, spaced at 30m intervals. Stopes will be backfilled with a combination of process waste, cement and fillers.

Mine design and methods have been selected to reduce worker exposure to physical hazards and radiation. The mine will utilise a high degree of equipment mechanisation and remote operating capability.

#### **Capital & Operating Cost Update**

In mid-2024, NXG provided the market with a cost update. Initial capital costs have been revised upwards to C\$2.2B (US\$1.6B), up from ~C\$1.3B in the 2021 Feasibility Study. This is 10% higher than Argonaut had previously forecast in its Rook development model. LOM sustaining capital costs are also higher at ~C\$785M, more than double the C\$362M indicated in the 2021 study. LOM operating costs are now estimated at US\$9.98/Ib U308.

#### **Underground Tailings Management**

A key feature of the Rook I development is the Underground Tailing Management Facility (UGTMF). The UGTMF will be established during the Project's development phase with non-radioactive crystalline waste rock mined and discarded at surface. During operation processing plant tails will be combined with cement to form a paste that will be injected into UGTMF for permanent storage. This innovative disposal solution eliminates the risk of surface contamination due to dam or structure failure. The crystalline host rock has lower hydrological conductivity, ensuring radioactive tailings are isolated from regional groundwater aquifers.

### Permitting

On May 21st, NXG submitted response to 49 technical review comments as part of the Federal Environmental Assessment. Finalisation of the technical review is expected by the end of November. We expect the final permit commission hearing to be completed in Q1 of CY2025.

### ESG

Facilities at the exploration site are world class in their design to ensure the safety of personnel and environment. This standard is expected to be upheld for planned mine and process infrastructure. The Underground Tailings Management Facility (UGTMF) exemplifies NXG's approach to environmental issues. NXG has a strong track record of engagement with stakeholders and has signed Indigenous Benefit Agreements with all four impacted First Nation and Métis communities. Uranium is primarily used as a fuel within nuclear power plants. Nuclear energy is the only fuel based, scalable, non-carbon emitting source of electricity.

Rook I will be an exceptionally low cost per pound operation compared to most peers

The planned UGTMF is considered best in class

NXG's production will represent a

significant market share

**Exploration upside at PLE** 



### Figure 69: CY2021 company attributable U308 production with Rook I potential annual production for Years 1-5 of production

Source: Argonaut

### **Exploration Upside**

Exploration drilling at the Patterson Corridor East area has encountered multi-percentile U3O8 grades over half metre widths accompanied by intense hydrothermal alteration are reminiscent of geological characteristics encountered at the Arrow deposit. Gamma spectrometer results in a new round of holes may indicate continuation of mineralisation along a south-west trend. Discovery of a new satellite deposit in this area could ultimately provide additional feed to the Rook I plant.



Figure 70: Overview map of Arrow and regional exploration targets.



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### **SPEC BUY**

Current Price	\$0.25
Valuation	\$0.56
TSR	124%

Ticker:			PDI
Sector:		Metals	& Mining
Shares on Issue (m):			2,350.9
Market Cap (\$m):			592.4
Cash Est. (\$m)			41.8
Debt Est. (\$m)			0.0
Enterprise Value (\$m):			550.6
52 wk High/Low:		\$0.29	\$0.16
12m Av Daily Vol (m):			4.490
Projects			Stage
Bankan	Rose		/elopment
Dankan	Rest		relopment
Mineral Resource	Mt	g/t Au	Moz Au
NE Bankan	88.2	1.5	4.9
Bankan Creek	12.2	1.2	0.5
Cashflows		2023	2024
Operating Cashflow		-6.5	-15.1
Investing Cashflow		-53.3	-51.9
Financing Cashflow		60.7	51.8
Cash Balance		44.9	29.4
Financial Summary	FY25E	FY26E	FY27E
Ebitda (A\$m)	-8	-8	-9
Ebit (A\$m)	-8	-8	-9
Earnings (A\$m)	-7	-6	-8
Capex (A\$m)	0	0	-360
Free CF (A\$m)	-28	-11	-412
Debt (cash) (A\$m)	-23	-12	39
Gearing (%)	-14%	-7%	7%
Directors:			
Simon Jackson	Non-I	Executive	Chairman

Simon Jackson	Non-Executive Chairman
Andrew Pardey	Managing Director
Steven Michael	Non-Executive Director
Sandra Bates	Executive Director
Henk Diederichs	Chief Operating Officer
Alberto Lavandeira	Non-Executive Director
Substantial Shareholde	rs: %
BlackRock Group	14.3%
•	
Perseus Mining	19.9%
T.Rowe Price	6.5%

Substantial Shareholders:	
BlackRock Group	14.3
Perseus Mining	19.9
T.Rowe Price	6.59

#### Share Price Graph and Trading Volumes



## **Predictive Discovery (PDI)**

**Bankan Gold Project** 

Analyst: Patrick Streater

### **Quick Read**

PDI cemented Bankan into our Best Undeveloped Project's list this year following the April PFS which outlined a 3.05Moz reserve with a proposed production profile of 269koz over 12 years (Extension Case). In addition to the large reserve base, the impressive open pit physicals of 2.3Moz at 1.42g/t Au with a 4.6 strip ratio leave no doubt that Bankan will deliver both in scale and margin.

### **Overview**

#### **Location and Tenure**

The Bankan Gold Project is located in north-east Guinea, 550km by road from the capital Conakry. The Bankan Gold Project is centred around the Northeast Bankan (NEB) deposit which was discovered back in April 2020. The Bankan Gold Project holds a total MRE of 5.4Moz at 1.66g/t Au. Drilling and study work since 2020 culminated in an April 2024 PFS study which proposed a 5.5Mtpa operation producing 269kozpa. The PFS highlighted Bankan as the largest advanced development project in Africa (by annual production) with sector-leading AISC margins and with a relatively low capital intensity. PDI is targeting receipt of Exploitation Permit late 2H CY2024 which is the last key permitting milestone required to bring Bankan into production.





Source: PDI

#### NEB - Simple, high-grade orebody

The Northeast Bankan deposit (NEB) contributes to the majority of the PFS open pit mining inventory from a single open pit design with an initial reserve of 2.1Moz at 1.41g/t Au. We view the NEB orebody as a technically low-risk open pit development given its simple metallurgy and wide (+50m in parts) continuous zones of mineralisation.





#### **Argonaut Mining Scenario**

Argonaut's Bankan development scenario closely aligns with the PFS Extension Case. We model 13-year mine life out to FY40 with an average LOM profile of ~250kozpa (averaging 257kozpa years 1-10). High-grade open pit mined grades (1.4g/t), 5.5mtpa milling capacity and low strip ratios all contribute to a competitive AISC of US\$1,155/oz (A\$1,678/oz). We note that there are several tangible optimisations for the project not included in the PFS. The PFS considered site power supply independent of Guinea's power grid. We expect the Bankan project will be able to materially (US\$300m over LOM) lower its power costs by connecting to the Linsan-Fomi transmission line which is currently under construction.

Figure 73 - April 2	024 PES Extension	and Reserve Case	mining inventories.
Inguic / J April Z		und neserve case	mining mychicones.

	i		ble Reserve		Inferred Mineral Resource in Production Schedule		Total Production Schedule				
Mine Area	Mt	g/t Au	Koz Au	% of Total	Mt	g/t Au	Koz Au	% of Total	Mt	g/t Au	Koz Au
Extension Case											
Open Pit	50.6	1.42	2,308	100%					50.6	1.42	2,308
Underground	7.1	3.23	739	62%	3.8	3.64	447	38%	10.9	3.38	1,186
Total	57.7	1.64	3,047	87%	3.8	3.64	447	13%	61.5	1.77	3,494
Ore Reserve Case											
Open Pit	50.6	1.42	2,308	100%					50.6	1.42	2,308
Underground	7.1	3.23	739	100%					7.1	3.23	739
Total	57.7	1.64	3,047	100%					57.7	1.64	3,047

Source: PDI

The NEB orebody will be developed simultaneously via open pit and underground mining

We expect the DFS to deliver a number of project optimisations to increase our valuation





#### Figure 74 - Argonauts proposed Bankan Gold Project production profile.

Additional near mine exploration success likely extends our Bankan production profile beyond FY40

Perseus Mining taking a 19.9% stake in PDI was key vindication of the assets quality by a major West African producer

Bankan's production profile is built on a high-quality open pit inventory with scale and margins

In our view Perseus Mining will be the eventual owner of Bankan after a DFS is delivered Source: PDI

#### **Perseus Mining Strategic Stake**

The Bankan asset offers acquirers a +250kozpa asset with straightforward metallurgy and strong AISC margins (PFS- US\$1,131/oz). During the initial discovery phase, it was clear the project would at some point attract interest from an existing producer. In August this year Perseus Mining (ASX:PRU) made a move on the project by acquiring an initial 17.3% interest in PDI. Perseus's current ownership in PDI's shareholding now totals 19.9%. We expect Perseus to eventually complete the transaction and acquire the project.

### **Argonaut's Valuation**

Argonaut's Bankan NPV uses the 'Extension Case' mining inventory reported in the Bankan April-2024 PFS. We capture resources not incorporated into our production forecasts at 4% of in-ground value. Our valuation methodology factors in cash and debt balances, and corporate overhead costs. We incorporate equity dilution at current share prices with A\$/sh values presented post-dilution. Our valuation uses a combined 50/50 NPV from spot gold prices and Argonaut gold price assumptions. We model US\$496m of pre-production and working capital requirements to develop the Bankan Gold Project.

#### Figure 11: Valuation using Argonaut forecasts and spot prices

Valuation FY24 Y/E	Spot Prices		Argonaut f	orecasts
Asset	A\$m	A\$sh	A\$m	A\$sh
Bankan NPV7	2,299.2	0.59	1,051.7	0.27
Government 15% Free Carry	(344.9)	(0.09)	(157.8)	(0.04)
Resources	383.6	0.10	383.6	0.10
Hedge book	0.0	0.00	0.0	0.00
Corporate overhead	(28.9)	(0.01)	(28.9)	(0.01)
Unpaid Capital	376.7	0.10	376.7	0.10
Cash	41.8	0.01	41.8	0.01
Debt	0	0	0.0	0.00
Total	2,727.5	0.70	1,667.1	0.43
Price Target (50/50 spot/base case)				0.56

Source: Argonaut Research



Figure 75: Bankan deposits and targets.

Source: PDI





Source: PDI



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### BUY

Current Price	\$0.36
Valuation	\$1.00
TSR	206%

Ticker: Sector:		Metal	PMT s & Mining
Shares on Issue (m): Market Cap (C\$m): Cash Est. (C\$m) Debt Est. (C\$m) Enterprise Value (C\$m	):		<b>1,415.1</b> <b>509.4</b> 129.9 0.0 <b>379.5</b>
52 wk High/Low: 12m Av Daily Vol (m):		\$1.18	\$0.34 3.340
<b>Projects</b> Shaakichiuwaanaan			<b>Stage</b> Study
Mineral Resource Shaakichiuwaanaan	<b>Mt</b> 142.6	Li <sub>2</sub> O (%) 1.38%	Li <sub>2</sub> O (kt) 1,975
Cashflows		2023	2024
		-7.2	-16.2
Operating Cashflow			
Investing Cashflow		-27.7	-98.3
Financing Cashflow Cash Balance		79.9 56.7	124.1 73.0
Key Metrics FCF yield (%)	<b>FY25E</b> -21.0%	<b>FY26E</b> -14.3%	<b>FY27E</b> -10.2%
Financial Summary	FY25E	FY26E	FY27E
Ebitda (C\$m)	-20	-21	-21
Ebit (C\$m)	-21	-21	-22
Earnings (A\$m)	-14	-14	-14
Op cash flow (A\$m)	-35	-30	-19
Capex (A\$m)	-39	-21	-21
FCF (A\$m)	-133	-91	-65
Debt (cash) A\$m) Gearing (%)	-13 -7%	-64 -26%	-344 -120%
Directors:			
Pierre Boivin			Chairman
Ken Brinsden	CEO,		& Director
		COO	& Director
Blair Way			
Blair Way Brian Jennings Mélissa Desrochers			Director Director
Brian Jennings	lers:		Director
Brian Jennings Mélissa Desrochers Substantial Sharehold			Director Director %



### Patriot Battery Metals (PMT/PMET)

### Shaakichiuwaanaan Lithium Project

Analyst: Hayden Bairstow

### **Quick Read**

PMT's Shaakichiuwaanaan (formally Corvette) represents the largest project of its kind in the Americas and the world's eighth largest hard rock lithium project. A PEA reported in August of this year outlines a two-stage development that will produce ~800ktpa of 5.5% Li2O spodumene concentrate. The project has enviable LOM cash operating costs of US\$375/t and LOM AISC of US\$574/t. The project's scale and economics make it an attractive standalone development that could appeal to an acquirer with aspirations of becoming a North American hard rock lithium producer.

### **Location & Tenure**

Shaakichiuwaanaan is located in the Eeyou Istchee James Bay region in Québec Canada. The project consists of a tenement package that covers ~50km of potential strike with over 70 outcropping pegmatites already identified. Corvette is strategically located close to road and power infrastructure with the 2.8GW La Grande 4 hydroelectric power station just 50km from the project. An 80-person exploration camp has been developed 15km north from site to service field activities.

#### Figure 77: Shaakichiuwaanaan tenure package with regional infrastructure.



Source: PMT

CV5 pegmatite outcrops



### Geology

The CV5 Pegmatite is hosted within Lac Guyer Greenstone Belt, considered part of the larger La Grande River Greenstone Belt, and dominated by volcanic and sedimentary rocks metamorphosed up to amphibolite facies. The dominate immediate host rocks at CV5 are amphibolite, metasediment, and ultramafic. CV5 is a spodumene-quartz feldspar pegmatite, with accessory muscovite and occasional tourmaline, and consists of a principal dyke of approximately 8 to 130 m true width, which is flanked by several subordinate dykes. To date, the mineralized corridor at CV5 has been traced by drilling to 4.35 km in length, and remains open at both ends along strike and to depth along most of its length. Over the past two years, PMT has undertaken a major drill out of the CV5 and CV1 pegmatite outcrops. Drilling has confirmed spodumene mineralisation at CV5 (including CV1) extends over a strike of ~4.6km.

Figure 78: Standing on CV5 outcrop facing east.



Source: Argonaut, September 2024

### Resource

In July of 2023, PMT announced a maiden resource of 109.2Mt grading 1.42% Li2O for 3,835kt of lithium carbonate equivalent (LCE) material. This figure was updated to 142.6Mt grading 1.38% Li2O for 4,880kt of LCE. The Resource includes both the CV5 and CV13 spodumene pegmatites, both of which remain open. The project Resource is likely to grow further still with a stated exploration target of 146-231Mt grading 1.0-1.5% Li2O.



Figure 79: Shaakichiuwaanaan CV5 block model projected view from top.

Source: PMT

A very large resource that will grow further still

Simple DMS processing



### **PEA Outcomes**

In August of 2024, PMT reported a Preliminary Economic Assessment for Shaakichiuwaanaan. The PEA outlines the potential for a competitive and globally significant high-grade lithium project targeting up to ~800ktpa spodumene concentrate using a simple Dense Media Separation ("DMS) only process flowsheet.

Mining is expected to commence via an open pit mining the CV5 deposit, with the underground coming on line in the third year of production. The open pit is forecast to mine ore at a 2-4mtpa run rate over the life of the project, with open pit grades expected to average 1.1% Li2O.

The proposed project would be staged with an initial 2.5Mtpa plant ultimately duplicated for 5Mtpa total capacity from project year 4. Spodumene at Shaakichiuwaanaan will be processed via a conventional dense media separation (DMS) process flowsheet. The full process route is outlined below. The PEA assumes a life of mine recovery of 69.5%.

Stage 1 of the project is expected to cost is C\$761m, reducing to C\$640m assuming PMT can access the Clean Technology Manufacturing Investment Tax Credit. The second stage would be paid for by project cashflows.

The PEA estimates that site cash costs will average US\$375/t, with AISC (FOB Bécancour) US\$574/t. These costs are world class, comparable with the large scale, tier 1 spodumene mines in Western Australia. Argonaut estimates that AISC on a landed in China basis would be U\$672/t, based on PEA assumptions.

Under PMT's base assumptions including a US\$1,500/t SC6.0 price, the 24-year project generates an NPV8 of C\$2.9B and an IRR of 34%.





Ore to be sourced from both open pits and underground workings



Source: PMT

#### Already backed by Albemarle

### Into the Development Stage

#### **Albemarle Backing**

In July 2023 PMT announced Albemarle had taken a 4.9% position in PMT. The subscription agreement saw Albemarle provide a private placement of C\$109m at +7% premium to the last traded share price. The strategic investment by Albemarle was followed by a non-binding memorandum of understanding where Albemarle would investigate the viability of a downstream lithium hydroxide plant for the Corvette lithium ore located on the property or other locations in Canada or the US.

#### **Permitting Underway**

PMT is progressing the key environmental approvals for the Shaakichiuwaanaan Lithium Project. Baseline data collection, which is required over a two-year period is ongoing and will be incorporated in the ESIA Submission to COMEX (Environments and Social Impact Review Committee PMT is targeting first production in 2029.

#### In the permitting pipeline

#### Figure 82 - PMT's stated development schedule (November 2024).



Source: PMT



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### BUY

Current Price	\$2.50
Valuation	\$3.50
TSR	40%

Ticker:			PRU
Sector:		Metals	& Mining
Shares on Issue (m):			1,376.2
Market Cap (\$m): Cash Est. (\$m)			<b>3,433.5</b> 959.9
Debt Est. (\$m)			0.0
Enterprise Value (\$m	n):		2,473.6
	.,.		_,
52 wk High/Low:		\$2.98	\$1.64
12m Av Daily Vol (m)	):		4.643
Due la sta			<b>C1</b>
Projects Edikan		Oneret	Stage
Sissingue			ing Mine ing Mine
Yaoure		-	ing Mine
Nyanzaga			elopment
, ,			
Mineral Resource	Ore (mt)	(g/t)	(koz)
Edikan	57.9	1.10	2,047.0
Sissingue	9.0	1.56	452
Yaoure	73.1	1.55	3637
Nyanzaga	30.0	3.41	3286
Mineral Reserves	Ore (mt)	(g/t)	(koz)
Edikan	25.4	1.11	909
Sissingue	4.4	1.80	255
Yaoure	35.2	1.53	1730
Nyanzaga	40.1	2.02	2600.0
, ,			
Cashflows		<b>2023</b> 329.7	<b>2024</b> 491.2
Operating Cashflow Investing Cashflow		-64.6	-396.5
Financing Cashflow		-73.9	-39.0
Cash Balance		728.9	814.7
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	7.5	7.4	7.1
EV/Ebit (x)	3.8	2.8	2.2
EV/Ebitda (x)	3.0	2.2	1.8
FCF yield (%)	10.9%	4.8%	10.8%
Dividend yield (%)	2.5%	2.2%	2.7%
, ()			
Directors & Manager	nent:		
Rick Menell		kecutive C	hairman
Jeff Quartermaine		ng Direct	
Amber Banfield	Non-	Executive	Director

Jen Quartermarne	Managing Director & CEU
Amber Banfield	Non-Executive Director
Elissa Cornelius	Non-Executive Director
Daniel Lougher	Non-Executive Director
John McGloin	Non-Exeutive Director

Substantial Shareholders:	%
Van Eck Associates	9.9%
Dimensional Holdings	5.0%
The Vanguard Group	5.0%





## Perseus Mining (PRU)

### Nyanzaga Gold Project

Analyst: Patrick Streater

### **Quick Read**

Perseus Mining (ASX:PRU) completed its acquisition of the Nyanzaga Gold project earlier this year by acquiring all remaining shares in OreCorp (ASX:ORR). Nyanzaga will be PRU's fourth operating asset, diversifying its operations across three jurisdictions. First gold is targeted for early CY2027 with initial early works already commenced.

### Overview

#### **Location and Tenure**

Nyanzaga is located in north-western Tanzania, south of Lake Victoria. The project is located 600km east of Mwanza (Tanzania's second largest city). A number of gold mines already exist within the area including Anglo Ashanti's Geita Mine and Barrick Gold's Bulyanhulu mine.

### **Key Project Metrics**

Once developed Nyanzaga will be a key contributor to the PRU production profile. Since acquiring the Nyanzaga Project PRU has been working through final engineering designs that will be incorporated into an updated resource and reserve statement later this year enabling an FID by year end. We expect the final development plans to include a larger mill throughput than OreCorp's DFS design of 4Mtpa. Using the DFS reserve of 2.02Moz at 2.6g/t Au as our base case, we expect Nyanzaga will be at least a +235kzpa operation over an 11-year mine life with average production rates at +250kozpa in the first eight years.





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#### Large-scale open pit with grade and low strip

The Nyanzaga DFS reported an open pit mining inventory of 1.2Moz of contained gold at 1.32g/t Au with a 3.7:1 strip ratio. The DFS pit optimisations were completed at a US\$1,500/oz gold price with a considerable increase in the US gold price recorded since the 2022 DFS. With a 1.32g/t Au mined grade and 3.7:1 strip ratio, we see a clear upside to the DFS open pit mining inventory, and we expect PRU will design a larger pit shell that captures a larger open pit inventory whilst still maintaining competitive operating margins (DFS outlined US\$954/oz AISC).

#### Figure 84 - Isometric view of the Nyanzaga open pit designs.



Source: ORR

### Figure 85 - Nyanzaga project current Mineral Resources.

 Table 1: Nyanzaga Project Measured and Indicated Mineral Resources 6,7

		MEASURED RESOURCES			INDICATED RESOURCES			MEASURED RESOURCES		INDICATED
DEPOSIT	DEPOSIT TYPE	QUANTITY						QUANTITY		GOLD
		Mt	g/t gold	'000 oz	Mt	g/t gold	'000 oz	Mt	g/t gold	'000 oz
Nyanzaga <sup>1,3</sup>	Open Pit /Underground	4.6	4.96	738	16.2	3.80	1,977	20.8	4.06	2,715
Kilimani <sup>2,4,5</sup>	Open Pit	-	-	-	3.4	1.09	119	3.4	1.09	119
TOTAL		4.6	4.96	738	19.6	3.33	2,096	24.2	3.64	2,834

#### Table 2: Nyanzaga Project Inferred Mineral Resource 6,7

		INFERRED RESOURCES			
DEPOSIT	DEPOSIT TYPE			GOLD	
		Mt		'000 oz	
Nyanzaga <sup>1,3</sup>	Open Pit/Underground	2.9	3.8	358	
Kilimani <sup>2,4,5</sup>	Open Pit	2.9	1.0	94	
Total		5.8	2.4	452	

Source: PRU

Nyanzaga will be a large-scale open pit with a 1.30g/t Au mined grade and low strip ratios

We expect a larger pit design will be used by PRU for the eventual mine design PRU is yet to report its own

this year

reserve statement for Nyanzaga which we expect will occur later

We expect an upsized mill the

4.0Mtpa DFS design

#### **Argonaut Mining Scenario**

Argonaut's Nyanzaga development scenario currently incorporates the open pit and underground mining physicals from the 2022 DFS completed by OreCorp. We currently model the first production from Nyanzaga coming online in the March quarter of FY27 producing an average of 207kozpa over a 12-year mine life but expect it to be a +235kozpa asset during its first 8-years in operation. PRU's is likely to construct a larger mill than the DFS proposed 4mtpa and therefore see our production scenario as a conservative base case until a final mine plan is reported by PRU.

#### Figure 86 - Nyanzaga 2022 DFS open pit physicals.

Description	Stage 1	Stage 2	Stage 3	Total* Nyanzaga	Kilimani	Total*
Total tonnage (Mt)	20.2	36.7	65.5	122.3	9.0	131.4
Ore tonnage (Mt)	5.3	7.6	12.9	25.7	2.4	28.1
Au grade (g/t)	1.4	1.3	1.3	1.3	1.0	1.3
Au content (Moz)	0.24	0.32	0.54	1.10	0.10	1.2
Waste tonnage (Mt)	14.9	29.1	52.7	96.6	6.6	103.3
Strip ratio (wt:ot)	2.81	3.83	4.09	3.76	2.75	3.68

Source: ORR

### **Argonaut's Valuation**

We currently model an A\$797m post-tax NPV10 for the Nyanzaga project (80%) using Argonaut gold price assumptions. Argonaut's Nyanzaga NPV utilises the OreCorp Nyanzaga DFS mining inventory although we expect there to be some slight modifications once PRU reports its updated Nyanzaga Mine plan later this year. We model US\$475m of pre-production capital costs will be required to build Nyanzaga.

#### Figure 87 - Argonauts proposed Bankan Gold Project production profile



Nyanzaga will be PRU's fourth operating asset and third +200kopza operation

Source: Argonaut Research


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## **SPEC BUY**

Current Price	\$1.18
Valuation	\$1.60
TSR	36%

Ticker: Sector:		Metals	SPR & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m) Debt Est. (\$m) Enterprise Value (\$m):			<b>1,112.7</b> <b>1,313.0</b> 83.0 0.0 <b>1,230.0</b>
52 wk High/Low: 12m Av Daily Vol (m):		\$1.64	\$0.39 5.101
<b>Projects</b> Dalgaranga	C	are & Ma	Stage intenance
Mineral Resource	Mt	g/t Au	Moz Au
Murchison	22.6	3.8	2.76
Never Never	5.7	8.1	1.49
Cashflows		2023	2024
Operating Cashflow		-10.3	-5.7
Investing Cashflow		-12.8	-24.5
Financing Cashflow		0.0	103.8
Cash Balance		34.6	93.0
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	nm	5.9	3.5
EV/Ebit (x)	nm	3.1	1.1
EV/Ebitda (x)	nm	2.8	1.0
FCF yield (%)	-7.2%	20.4%	31.0%
Financial Summary	FY25E	FY26E	FY27E
Revenue (A\$m)	0	595	955
Ebitda (A\$m)	-38	439	716
Ebit (A\$m)	-40	394	643
Earnings (A\$m)	-40	273	458
Capex (A\$m)	-116	-64	-39
Free CF (A\$m)	-115	328	498
Directors:			
Simon Lawson		Execu	itive Chair
Mark Hine	Non	-Executiv	e Director
Craig Jones	Chie		ng Officer
David Coyne		Executiv	e Director
Deanna Carpenter	Non	-Executiv	e Director
Substantial Shareholder	s:		%
Ramelius Resources			18.3%
Tembo Capital Holdings	UK Ltd		9.9%

#### Share Price Graph and Trading Volumes

1832 Asset Management



8 1%

## **Spartan Resources (SPR)**

**Never Never Gold Project** 

Analyst: Patrick Streater

### **Quick Read**

Spartan Resources (ASX:SPR) continued to grow its high grade Never Never discovery with extensional drilling this year resulting in the discovery of the even higher-grade Pepper Lode. The Dalgaranga Project MRE currently totals 2.48Moz at 4.8g/t Au, including an exceptional high-grade underground resource of 1.85Moz at 8.65g/t. A restart of the Dalgaranga is fast-tracked by existing infrastructure, including a 2.5Mtpa plant, camp and mining offices. Once Never Never enters production we expect its thick continuous zones of 6-9g/t material will deliver one of WA's highest margin undergrounds at a scale of ~200kozpa.

### **Overview**

### **Location and Tenure**

The Never Never discovery is part of SPR's Dalgaranga Gold project last operated in 2022. Dalgaranga is located 65km west of Mt Magnet in the Murchison region of WA. Dalgaranga last operated as an open pit operation in 2022 before entering care and maintenance following a period of challenging production as mined grades fell well below resource estimates. Exploration in 2022 towards the northern end of the Gilbeys pit followed up a historic intercept at depth with successive drilling thereafter defining the high-grade Never Never lode to a depth of +1000m below surface.





Source: SPR



### Exceptional widths, grades, and continuity

The Never Never and Pepper lodes are hosted within a northwest striking highly silicified and sericite-altered shale package with abundant visible gold. The tenor of Never Never and Pepper is considerably higher than the rest of the Gilbey's Complex and it is interpreted that Never Never and Pepper acted as high-grade feeder zones to the rest of the Gilbeys deposit.

A distinguishing attribute of Never Never and Pepper is not just the resource grade of 9g/t and 7.6g/t respectively, but the width of highly continuous lodes at exceptional true widths averaging 10m to 20m. All three attributes we believe will translate into a high-grade (+6g/t) underground ore reserve within a tightly contained strike extent that is amenable to high-grade large tonnage stopes with minimal ore drive development requirements.



#### Figure 89 - Long section of the Never Never and Pepper discoveries.

Source: SPR

### **Argonaut Mining Scenario**

SPR has already commenced pre-production activities for its proposed restart with the commencement of a dual exploration decline in the 1QFY25. SPR is targeting a maiden Ore Reserve for its Never Never and Pepper discoveries in 3QFY25 which we expect will be a large-scale underground operation with initial stoping fronts commencing at the highest tenor portions of Never Never and Pepper. Utilising excess milling capacity from the existing 2.5Mtpa mill, we expect SPR will target at least four production areas across Never Never, Pepper, and the lower-grade West Winds area in what will be large tonnage high-grade underground. Once fully ramped up, we expect Dalgarana could be producing 200kozpa by FY27. We expect further MRE growth and mine life extensions once the exploration decline is established to allow deeper underground drilling to begin.

A combination of grade, width, and continuity should make Dalgaranga a high margin operation

The existing 2.5Mtpa mill fast tracks a Dalgaranga Restart

A dual decline development currently underway will service a large-scale underground operation

Have be her of on her annyel be canne can en den grace operations and the second second

Figure 90 - 3D view of SPR's Juniper Decline current being developed.

Source: SPR





We think the grades of Never Never can support a 200kozpa operation

Source: Argonaut Research

## **Argonaut's Valuation**

Argonaut's post-tax NPV6 for the Dalgaranga restart totals A\$1.4B (A\$1.6B - spot) which incorporates Argonaut's derived mining physicals into a 7-year mine life producing 185 Koz/pa in years 1-5. We include mining inventory from Never Never open-pit and underground material from Never Never, Pepper, Four Pillars, and West Winds. We assume A\$125M of pre-production capex is still required after completion of the exploration decline. We model the first production in the DQ of FY26. We assume SPR will require another \$75M final equity raise to bring Never Never into production combined with an A\$50M debt facility.

SPR is targeting a Maiden Ore Reserve early next year.



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## **SPEC BUY**

Current Price	\$0.76
Valuation	\$0.80
TSR	5%

Ticker:		SVM
Sector:	Metals 8	& Mining
Shares on Issue (m):		599.9
Market Cap (\$m): Cash Est. (\$m)		<b>425.9</b> 41.0
Debt Est. (\$m)		41.0
Enterprise Value (\$m):		384.9
52 wk High/Low:	\$0.83	\$0.41
12m Av Daily Vol (m):		0.409
Post of a		
Projects Kasiya Rutile Project		Stage PES
Kasiya Kutile Project		FL2
<b>Resources Contained Metal</b>	Rt (Mt)	TGC (Mt)
Resources Contained Metal Total Resources	<b>Rt (Mt)</b> 18	<b>TGC (Mt)</b> 24.4
Total Resources Measured & Indicated	18 12.2	24.4 18.0
Total Resources	18	24.4 18.0
Total Resources Measured & Indicated	18 12.2	24.4 18.0
Total Resources Measured & Indicated	18 12.2	24.4 18.0 6.5
Total Resources Measured & Indicated Inferred	18 12.2 5.7	24.4 18.0 6.5 <b>2024</b>
Total Resources Measured & Indicated Inferred Cashflows	18 12.2 5.7 <b>2023</b>	24.4 18.0 6.5 <b>2024</b> -15.1
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow	18 12.2 5.7 <b>2023</b> -12.9	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow	18 12.2 5.7 <b>2023</b> -12.9 0.0	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow Financing Cashflow	18 12.2 5.7 <b>2023</b> -12.9 0.0 0.5	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3 58.9
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow Financing Cashflow Cash Balance	18 12.2 5.7 <b>2023</b> -12.9 0.0 0.5	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3 58.9
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow Financing Cashflow Cash Balance Directors:	18 12.2 5.7 <b>2023</b> -12.9 0.0 0.5 5.1	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3 58.9 46.4
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow Financing Cashflow Cash Balance Directors: Ben Stoikovich	18 12.2 5.7 <b>2023</b> -12.9 0.0 0.5 5.1	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3 58.9 46.4
Total Resources Measured & Indicated Inferred Cashflows Operating Cashflow Investing Cashflow Financing Cashflow Cash Balance Directors:	18 12.2 5.7 <b>2023</b> -12.9 0.0 0.5 5.1	24.4 18.0 6.5 <b>2024</b> -15.1 -19.3 58.9 46.4

Frank Eagar	Managing Director
Ian Middlemas	Non-Executive Director
Julian Stephens	Non-Executive Director
Mark Pearce	Non-Executive Director
Nigel Jones	Non-Executive Director
Substantial Shareholders:	%
Rio Tinto	15.0%
Sprott Asset Management	8.0%

#### Share Price Graph and Trading Volumes



## Sovereign Metals (SVM)

## Kasiya Rutile-Graphite Project

Analyst: George Ross

### **Quick Read**

The giant Kasiya deposit in Malawi hosts an unusual style of mineralisation which hosts high quality rutile and graphite. Ore can be mined using low-cost mining methods and treated with conventional dense media and flotation circuits for two valuable products. The project is serviced by quality heavy rail infrastructure providing ready access to ports in Mozambique. Rio Tinto (Not Covered / No Rating) holds a 19.9% equity stake in SVM and could one day move to consolidate ownership.

### Location

The Kasiya Rutile-Graphite deposit is in an area northwest of Malawi's capital of Lilongwe called the Lilongwe Plain. The topography is flat to gently undulating. Mining is a relatively small sector in Malawi's economy, currently contributing less than 1% to the country's GDP. In recent years the government has implemented various policies aimed at promoting the growth of the mining sector, including the Mines and Minerals Act of 2018, which seeks to provide a transparent and predictable legal framework for mining operations in the country.

### **Addressing Two Critical Mineral Markets**

The project will produce two critical mineral coproducts, rutile and graphite, at a low carbon cost. Kasiya's rutile concentrate is considered a premium product with good particle size and low deleterious elements. Because of its quality, Kasiya's rutile is suitable for use as both a titania feedstock and in the high value welding sector. SVM has entered into non-binding MOUs with three major rutile market participants: Mitsui, Chemours and Hascor.

Kasiya's graphite concentrate is also considered to be a premium product. A large proportion of the flake basket is categorised as Large, Jumbo or Super Jumbo size category. Battery anode characterisation results completed to date indicate high crystallinity, and by extension, likely high electrical conductivity. Thermal purification tests achieved a 'four 9s' (99.995%) purity with very low levels of critical impurities. Hydrofluoric acid purification achieved 99.92% purity, close to the 99.95% level Kasiya's flake graphite product is coarse and highly crystalline. Sizing tests indicate that 26.8% of graphite product will be Large (+180 $\mu$  /80 mesh) and 29% classed as Jumbo or Super Jumbo.

## **A True Giant**

Kasiya is the world's largest rutile deposit and a globally significant graphite deposit. The current Resource is defined as 1,809Mt at 1.0% recoverable rutile and 1.4% graphite (1.8% Rutile Equivalent) for 17.9Mt of contained rutile and 24.4Mt of graphite (>0.7% rutile cutoff). Mineralisation occurs as a shallow, unlithified enrichment blanket on top of basal Kasiya's resource is large

geology. Rutile-graphite mineralisation occurs as flat blankets, with highest rutile grades (1.2-2.0%) typically occurring in the top 3-5m from surface. Graphite mineralisation occurs extensively within the broader deposit and can be mined concurrently to rutile mineralisation.

#### Table 9: Kasiya Latest Resource. Rt = Rutile, TGC = Total Graphite Content.

#### siva Mineral Resource Estimate at 0.7% Rutile Cut-off (inclusive of Ore Reserves Material Tonnes RutEq. Grad (%) Rutile Ton (million Graphite Tor (millions) rai R Rutile (%) Graphite (TGC%) Indicated 1.200 1.0% 12.2 1.5% 18.0 1.9% Inferred 5.7 6.5 609 0.9% 1.1% 1.6% 1.4% Total 1,809 1.0% 17.9 24.4 1.8%

Source: SVM

#### Figure 92: Kasiya MRE with block model rutile grades.



### The deposit covers a large area

Source: SVM





Rutile grade is concentrated near surface



## **Pre-Feasibility Study Outcomes**

SVM's Kasiya PFS considers an initial 25-year operation with two stages of plant throughput (12/24Mtpa). The newly defined Probable Reserve of 538Mt of 1.03% rutile and 1.66% graphite, incorporates only 30% of the global 1,809Mt total MRE. We expect the project will operate far beyond its initially scoped 25-year life.

The Stage 1 (12Mtpa) plant will produce approximately 130ktpa of both rutile and graphite. Plant throughput and product output will double from Year 6 to 24Mtpa, with duplication of key processing infrastructure. Anticipated average LOM rutile and graphite production is 222ktpa and 244ktpa respectively.

The friable nature of Kasiya style rutile-graphite mineralisation enables extraction via either free dig conventional (no drilling or blasting), or hydraulic mining. Hydraulic mining uses water to dislodge and transport unconsolidated ore as a slurry suspension along pipelines to a central processing plant. This method of mining is less energy intensive an less expensive than conventional drill and blast.

Capital to first production is estimated at US\$597M including a US\$88M contingency. SVM's model generates an operating cost of US\$404/t of product (rutile+graphite). Under SVM's assumptions the project generates an average annual LOM EBITDA of US\$415M. The study generates a Post Tax NPV8 of US\$1,605M with an IRR of 28% (NPV10 of US\$1,205M).

## **Studies Continue**

Mining, processing and other studies have continued. Trials have proven amenability of Kasiya to hydraulic and conventional fee dig mining. Ongoing graphite characterisation and battery suitability tests have generated strong results. Physical analysis has shown that Kasiya's graphite has high purity, near perfect crystallinity and low levels of sulphur and other impurities.

*Figure 94: Kasiya graphite anode purity compared with China Standard and Example benchmarks.* 

		Kasiya			Benchmarks	
	Concentrate <180 µm	Concentrate ≻180 µm	Combined	China Standard <sup>1</sup>	Example Chinese Product <sup>2</sup>	
Graphite (TGC%)	96.9%	97.2%	97.0%	>94%	96.0%	
Sulphur (S) (%)	<0.02%	<0.02%	<0.02%	<0.5%	0.23%	
Iron (Fe) (%)	0.48%	0.46%	0.47%	<1.00%	0.55%	
Silicon (Si) (%)	0.60%	0.80%	0.68%	n/d	1.25%	
Aluminium (Al) (%)	0.24%	0.28%	0.26%	n/d	0.38%	

Source: SVM

A bigger and better scoping study envisages a 12Mtpa operation scaling to 24Mtpa of throughput

At full scale, the Project is expected to produce up to 222kt of rutile and 244kt of graphite per annum

An unusual style of mineralisation enables unique operating cost advantages





### Figure 95: Installed Spiral plant at Sovereign's Lilongwe facility.

Source: SVM

### **Rio Tinto Involvement**

In July 2023 Rio Tinto became a 15% strategic investor in SVM last year following a A\$40.4M investment. In 2024, RIO increased its shareholding in SVM to 19.99% with further cash investment. Rio Tinto holds an option to become Operator of the project within 180 days of publishing the Kasiya DFS. SVM's management have performance shares related to the DFS scheduled for Q3 of CY2025. We anticipate Rio Tinto will ultimately want to buy out SVM and progress the project on its own. Completion of the DFS or the subsequent finalisation of permitting could be catalysts for this event.

### **Project Economics**

SVM's 2023 Kasiya PFS outlines an initial 25-year mine life, with capital expenditure to first production estimated at US\$597M. The project would be developed in two stages, an initial 12Mtpa throughput, expanding to 24Mtpa from operational Year 5. Utilisation of free dig or hydro-mining, and large scale gravity separation without crushing is expected to result in lowest quartile operating costs, an average of US\$404/t of graphite/rutile product. SVM's study generates a US\$1,650M post tax NPV8, with an IRR of 28%. Lifetime revenues are estimated at US\$16B, with average annual EBITDA of US\$415M.

# Test spiral plant installed at SVM's Lilongwe facility

Rio Tinto now owns 19.99% of SVM



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## **SPEC BUY**

Current Price	\$13.20
Valuation	\$26.00
TSR	97%

Ticker:			WA1
Sector:		Metals 8	Mining
			-
Shares on Issue (m):			67.72
Market Cap (\$m): Cash Est. (\$m)			<b>893.85</b> 94.5
Debt Est. (\$m)			94.5
Enterprise Value (\$m):			799.35
52 wk High/Low:		\$22.41	\$7.47
12m Av Daily Vol (m):			0.342
Projects			Stage
Luni (West Arunta)		F	Resource
,			
Cashflows		2023	2024
Operating Cashflow		-0.9	-4.7
Investing Cashflow		-5.0	-15.0
Financing Cashflow Cash Balance		10.0 17.8	40.0 46.5
Casil balance		17.8	40.5
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	7.5	7.4	7.1
EV/Ebit (x)	3.8	2.8	2.2
EV/Ebitda (x)	3.0	2.2	1.8
FCF yield (%)	10.9%	4.8%	10.8%
Dividend yield (%)	2.5%	2.2%	2.7%
Financial Summary	FY25E	FY26E	FY27E
Revenue (US\$m)	1,274	1,384	1,319
Ebitda (US\$m)	637	727	727
Ebit (US\$m)	492	576	594
Earnings (US\$m)	364	372	384
Op cash flow (US\$m)	539	518	556
Capex (US\$m) Free CF (US\$m)	(183) 296	(330) 126	(195) 285
FIEE CF (035iii)	290	120	205
Debt (cash) (A\$m)	(1,262)	(1,567)	(2,098)
Gearing (%)	(64%)	(74%)	(101%)
Directors			
Gary Lethridge		ecutive C	
Paul Savich Tom Lyons		Managing Executive	
Rhys Bradley		Executive	
,			2.1.00001
Top Shareholders			
Tali Resources Pty Ltd			14%

Tali Resources Pty Ltd
Board & Management
Institutions & HNW Individuals

18% 41%

#### Share Price Graph and Trading Volumes



## WA1 Resources (WA1)

## Luni Niobium Project

Analyst: George Ross

### **Quick Read**

Since it's discovery in 2023, Luni has rapidly grown into a world class niobium deposit. WA1's work during the past 12 months has focused on Resource definition and metallurgical test work.

### **Project Overview**

### **Location & Tenure**

The Luni niobium prospect is located in Western Australian, near the Northern Territory border and north of Kiwirrkurra. The prospect forms part of WA1's West Arunta project.

### **Deposit & geology**

Mineralization is associated with a carbonatite intrusive body measuring approximately 3km x 2km. Better-grade mineralization occurs at the base of complete oxidation (BOCO). In the case of Luni, a protracted period of weathering appears to have dissolved away soluble mineral species, leading to volume deflation and the concentration of oxidation-resistant minerals like pyrochlore, columbite monazite, and apatite. This mechanism of concentration is also observed at Araxá (CBMM), Lynas' (LYC) Mt Weld and Peak Rare Earth's (PEK) Ngualla rare earth deposits.

At Luni, a zone of particularly enriched niobium mineralization occurs as a north-east bearing feature, through the south-western part of the interpreted carbonatite. The northern central part of the carbonatite has a shallower depth to basement and less well-developed weathering profile. This suggests that weathered and eroded pyrochlore minerals may have shed southward when the (now buried) carbonatite was exposed at surface.





Global MRE of 200Mt at 1.0%

Nb2O5



### **Mineral Resource Estimate**

The global figure for the Luni MRE is 200Mt at 1.0% Nb2O5 with a higher-grade component of 53Mt at 2.1% Nb2O5. This outcome confirms Luni as one of the world's premier niobium deposits. The Luni Mineral Resource extends 3.6km east-west and 1.4km north-south. The weathered mineralised domains typically range between 10m to 70m in thickness, with an average of 30m. The entire MRE is classified within the Inferred resource category. Future drilling will be used to improve the knowledge of spatial distribution of high-grade mineralisation and category classification. Referencing WA1's published grade recovery curve (Figure 98) we also isolate 45Mt at 2.6% Nb2O5, an outcome correlated well with our pre-MRE Argonaut estimate.

### **Ongoing Drilling**

Recent drilling has predominantly focussed on MRE infill and expansion. This work has confirmed extensions of mineralisation to both the west and east. Access to the northern extension of the Luni carbonatite is terminated by WA1's tenement boundary with neighbour, Encounter Resources (ENR).





Source: WA1





Grade and tonnage of MRE consistent with our expectation

Highest grades occur within the weathered zone of the carbonatite

Source: Argonaut after WA1



Figure 99: Recent Luni deposit drilling results.

Infill drilling continues to deliver grade

Source: WA1

#### **Metallurgy Progress**

To date, WA1 has reported flotation and concentrate leach test results. Locked cycle flotation tests achieved 53% recovery of Nb2O5 to a 58% Nb2O5 pyrochlore concentrate. The head grade of the composite sample used for test work was relatively high at 4.15% Nb2O5. Additionally, open cycle flotation tests achieved 62% recovery for a 51% Nb2O5 con and 52% recovery for a 61% Nb2O5 concentrate. Concentrate was calcined and then leached with dilute HCL at ambient temperature. The tests achieved a 99.9% recovery for a 66.9% Nb2O5. Importantly, phosphorus content (P2O5) was reduced from 4.18% to 0.18%. Phosphorous is a key impurity requiring removal for production of high quality ferroniobium. Key impurities at CBMM's (Not Covered / No Rating) Araxa operation in Brazil include sulphur, phosphorus and lead. The conversion of WA1's refined pyrochlore concentrate to ferroniobium will be assessed in future test programs.

### Luni Development Scenario

We envisage Luni will be developed as an open-pit operation with an initial 17-year mine life. A flotation process plant will be located proximal to the Resource for mineral concentrate beneficiation. Mining and processing 2Mtpa of 2.5% Nb2O5 ore would make WA1 a globally significant ferroniobium producer with an output of 30 ktpa of FeNb. Based on drilling to date, we assume a ~6.6:1 waste:ore strip ratio for the open pit.

We model a multistage flotation process plant to produce a primary 50% Nb2O5 pyrochlore/columbite concentrate. If technically feasible, a secondary monazite/apatite concentrate could be separated and sold or treated by a third-party refiner. We note that Arafura Rare Earth's (ARU) Nolan's Bore project is located approximately 550 km east of Luni. The proposed leach and acid bake process pathway used at Nolan's Bore could be capable of treating a Luni monazite/phosphate concentrate. It is likely that the majority

Flotation and leach test outcomes positive

**Argonaut estimates a Post-Tax** 

NPV of A\$3.0B



of uranium and thorium are associated with monazite. Separation of these minerals will benefit the primary pyrochlore/columbite concentrate by reducing its radioactivity. We do not include by-product credits in this model iteration.

Our model produces 50 kt of 55% Nb2O5 pyrochlore/columbite concentrate annually. This material would be trucked approximately 1,200 km to a purpose-built ferroniobium pyrometallurgical converter located at either Port Hedland or Karratha. We maintain a preference for locating midstream refining infrastructure closer to the coast and near existing industrial infrastructure (including power), rather than building it at the mine site. We assume a 55% recovery of niobium minerals to concentrate and a 97% recovery for pyrometallurgical refining to ferroniobium (~55% full process recovery). Approximately 19kt of niobium would be shipped to international markets within 30kt ferroniobium units annually.

Our preliminary development financial model generates a Build Date (FY2028) Post-Tax NPV of A\$3.0B. Argonaut's total pre-operational cost for process, refining, and support infrastructure is estimated at ~A\$900M. As currently scoped, the project generates annual sales revenues of ~A\$1,180M and annual profit after tax of approximately A\$590M. We assume a FeNb price of US\$26/kg, equivalent to US\$40/kg unit of contained Nb. Our USD/AUD exchange rate is set static at x0.65 over life of mine. We budget A\$15-20M per annum for drilling, studies, and permitting until FY2028.

Figure 100: Bubble chart comparison of Resources. Resources of current producers displayed as diamonds. Bubble scaled to contained Nb2O5. Note that CBMM's currently mines its Oxidised Resources only.



A globally significant resource

Source: Argonaut



# **Best Undeveloped Projects**

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## **SPEC BUY**

Current Price	\$1.5
Valuation	\$3.6
TSR	1379

Ticker: Sector:		Metal	WAF s & Mining
Shares on Issue (m):			1,140
Market Cap (\$m):			1,732.4
Cash Est. (\$m)			464.0
Debt Est. (\$m)			429.3
Enterprise Value (\$m):			1,697.7
52 wk High/Low:		\$1.84	\$0.80
12m Av Daily Vol (m):		<b>91.0</b> 4	3.681
Mineral Resource	Mt	(g/t)	(koz)
M1 South	3	8.63	953
M5	47	1.01	1,535
Kiaka	284.8	0.86	7874
Ore Reserves	Mt	(g/t)	(koz)
M1 South	2.9	7.49	696
M5	7.5	1.14	273
Kiaka	154.7	0.91	4510
Cashflows		2023	2024
Operating Cashflow		250.9	257.2
Investing Cashflow		-252.3	-506.7
Financing Cashflow		-6.8	313.5
Cash Balance		135.1	377.2
Kau Mashira	0/245	0/055	01/265

Key Metrics	CY24E	CY25E	CY26E
P/E (x)	10.2	3.2	2.1
EV/Ebit (x)	6.8	2.1	0.6
EV/Ebitda (x)	5.4	1.8	0.5
FCF yield (%)	-12.8%	15.5%	47.9%

#### Directors & Management:

Richard Hyde	Founder, CEO & Chairman
Lyndon Hopkins	Executive Director & COO
Rod Leonard	Independent Lead Director
Nigel Spicer	Non-Executive Director
Libby Mounsey	Executive Director of HR
Stewart Findlay	Non-Executive Director
Robin Romero	Non-Executive Director

Substantial Shareholders:
Van Eck Global
Dimension Fund

#### Share Price Graph and Trading Volumes



# West African Resources (WAF)

## **Kiaka Gold Project**

Analyst: Patrick Streater

### **Quick Read**

0

West African Resources (ASX:WAF) are currently constructing their Kiaka Gold Project which will be a +234koz operation with an impressive 20-year mine life. With construction around 60% complete, first gold from Kiaka is targeted for Q3 CY2025. Few ASX-listed assets can match Kiaka's 20-year mine life at an AISC of US\$1,196/oz which warrants Kiaka's inclusion into our 2024 BUP's list.

### **Overview**

### **Location and Tenure**

WAF's Kiaka Gold Project is located 100km southwest of the Burkina Faso capital city of Ouagadougou and 45km from WAF's existing Sanbrado operation. Project construction is currently underway with almost 60% of construction completed and 80% of project costs committed and fixed.

Figure 101 - Kiaka Gold Project Location in Burkina Faso.



Source: WAF

10.4%

5.3%

### **Production scenario**

The Kiaka Gold Project is underpinned by a mineral resource estimate of 7.9Moz at 0.9g/t (constrained within a US\$2,000/oz optimised pit shell). From this MRE WAF has reported a Probable Ore Reserve estimate of 4.8Moz at 0.9g/t Au. Production will target 258kozpa in the first five years of production, averaging 234kozpa over a 20-year mine life. Processing will include an 8.4Mpta conventional CIL plant required to maximise throughput of the relatively low mined grade.

Kiaka is a large-scale low-grade (0.9g/t) open pit operation with a very low strip ratio of 1.8:1 which facilitates a competitive ASIC of A\$1,785/oz (US\$1,196/oz) over the LOM.

### Figure 102 - Argonauts Kiaka Production Outlook.



Kiaka's open pit mine life at a competitive AISC cements its place in our 2024 BUP's list

Argonaut Research | www.argonaut.com

Source: Argonaut Research, October 2024

# *Figure 103 - Cross section of the Kiaka deposit highlighting the width of mineralisation and low strip ratio required for the project*



Source: WAF

### Figure 104 - Kiaka Gold Project development schedule

		2022			20	23			20	24			20	25	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Award of EPCM and Order Mill Package															
Early Works															
RAP update															
Commencement of Major Works															
Open Pit Mining Commences															
Commissioning Begins															
First Gold and Ramp Up															

Source: WAF

Widths of the Kiaka orebody are ideal for large-scale open-pit mining



### Significant reserve base underpins long-life asset

Kiaka's open pit reserve of 4.8Moz significantly exceeds comparable undeveloped open pit projects progressing towards development. Kiaka and Hemi are both outliers with open pit reserve bases x2-x3 larger than comparable open pit developments. Even factoring in the sovereign risk associated with operating in Burkina Faso, we think the value of Kiaka is yet to be reflected in WAF's current market capitalisation and, should be a significant cashflow contributor for WAF once fully ramped up.

Figure 105 - Undeveloped open pit reserves/mining inventories. Kiaka's reserve is second only to Hemi in our list of the largest ASX-listed undeveloped open pit assets.



Kiaka and Hemi are significant outliers in our group of undeveloped open pits

Source: Argonaut Research, Company Reports

## **Argonaut's Valuation**

Our post-tax NPV12 for Kiaka totals A\$1,738m reflecting capital costs already incurred from the US\$447m total pre-production capital cost. Our NPV12 valuation assumes Argonaut gold price assumptions averaging A\$4,300/oz during the initial 5-years of production. The Burkina Faso government holds a 10% free carried interest in WAF's Burkina Faso projects.

### Argonaut Research | www.argonaut.com

Antiformal closures within pit

outline

### Figure 106: Kiaka geological map.



Source: WAF

### Figure 107: Kiaka geological section.



Broader mineralised envelope has a high grade core

Source: WAF



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## **SPEC BUY**

Current Price	\$0.35
Valuation	\$0.90
TSR	161%

Ticker: Sector:		Metals	ENR & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m) Debt Est. (\$m) Enterprise Value (\$m):			<b>451.8</b> <b>155.9</b> 10.1 0.0 <b>145.8</b>
52 wk High/Low: 12m Av Daily Vol (m):		\$0.87	\$0.23 0.807
<b>Projects</b> West Arunta / Aileron Sandover Paterson/Yeneena Lamil Greater McArther		E	Stage xploration xploration xploration xploration xploration
Cashflows Operating Cashflow Investing Cashflow Financing Cashflow Cash Balance		<b>2023</b> -0.6 -3.3 13.5 11.8	<b>2024</b> -0.5 -8.2 11.0 14.1
<b>Financials</b> Revenues (A\$m)	<b>FY32E</b> 518	<b>FY33E</b> 850	<b>FY34E</b> 876
<b>Group Prod.</b> Nb2O5 C1 Net BP	<b>FY32</b> 7.9 21.6	<b>FY33E</b> 12.6 10.3	<b>FY34E</b> 12.6 10.3
<b>Directors:</b> Will Robinson Dr Jon Hronsky OAM Peter Bewick Philip Crutchfield	Nor Nor	n-Executiv n-Executiv	e Chairman ve Director ve Director ve Director
Substantial Shareholder	s:		%

### IGO Chalice Mining Paradice Investment

6.3% 6.1%

6.0%

#### Share Price Graph and Trading Volumes



## **Encounter Resources (ENR)**

## **Aileron Niobium Project**

Analyst: George Ross

### **Quick Read**

ENR controls the most expansive ground position over the emerging West Arunta region. WA1 Resources was the first to define a potentially economic niobium deposit within the region, and we believe ENR will follow close behind. Exploration results to date indicate high-grade niobium mineralisation across multiple prospects. Argonaut believes there is a high probability that future drilling programs will delineate multiple deposits of niobium and potentially other metals.

### **Location & Tenure**

The 100% owned Aileron Project includes 4 granted tenements covering a combined total area of 1,765 km2. The Project is located ~600km west of Alice Springs, within the State of Western Australia. ENR's tenement position is the most expansive over the Proterozoic aged West Arunta Inlier. The West Arunta Inlier hosts a suite of deformed and metamorphosed sedimentary and igneous rocks including carbonatites. The region represents one of Australia's last underexplored, near surface, Proterozoic terranes and is considered prospective for IOCG style copper and gold, along with rare earth element and niobium mineralisation. ENR's Aileron project tenure covers the majority of near surface prospective Proterozoic rocks.

Figure 108: Aileron Project tenements over Magnetic Survey data with key targets highlighted.



### **Geology & Targets**

Carbonatite hosted niobium targets identified to date include Crean, Hurley, Emily and Green. This style of mineralisation typically has a primary moderately enriched carbonatite, capped with high grade mineralisation associated with the weathering profile. First pass reconnaissance drilling was completed in the 2023 field season. The 2024 field program is expected to include >30,000m of aircore drilling with RC and



diamond follow-up in select areas. ENR believes the proximity of major faults influences or is related to the emplacement of mineralised carbonatites.

Preliminary analysis of ENR drill core suggests niobium bearing pyrochlore is usually strongly crystalline and is often coarse grain in nature. These characteristics should hopefully lead to good process recoveries.

*Figure 109: Tornado-XRF scan of unweathered drill core from ENR drill hole EAL001 (355m depth)* 



Source: ENR

A good example of the structure-carbonatite association is the Elephant Island Fault and the Hoschke, Crean and Hurley targets. Drilling completed to date suggests a carbonatite dyke strikes parallel to the regional scale Elephant Island Fault. Several fences of aircore holes completed at Crean have identified carbonatite over at least 800m of strike length. Weathered and enriched niobium bearing mineralisation was identified in three holes, defining carbonatite across a width of approximately 100m. The technical limitations of aircore drilling restricted the depth of drilling, consequently, all three holes were terminated in mineralisation. The best hole to date was EAL256 with a high-grade interval of 52m at 3.0% Nb2O5 (true vertical depth ~30m). The high-grade enriched zone is capped by weathered carbonatite leached of mineralisation. RC and/or diamond drilling will be completed along this section to test the true depth extent of mineralisation.



Figure 110: Crean cross section A-A' with drilling results and carbonatite interpretation.

Source: ENR

### Mineralogical analysis suggests pyrochlore is coarse in nature

The Crean prospect is defined by a

carbonatite dyke with a deep

weathering profile



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## **SPEC BUY**

Current Price	\$1.12
Valuation	\$3.20
TSR	179%

	Metals	MAU & Mining
		<b>266.7</b> <b>298.8</b> 15.4 0.0 <b>283.4</b>
	\$1.60	\$0.84 0.107
	Pre-Feasib	<b>Stage</b> ility Study
re (mt) 23.06 3.18 1.33	<b>(g/t)</b> 2.01 1.28 1.68	<b>(kOz)</b> 1492.40 130.40 72.20
	<b>2023</b> -1.3 -4.6 8.0 4.1	<b>2024</b> -2.0 -8.8 16.0 9.2
FY25E nm nm -2.0%	FY26E nm nm -12.2%	<b>FY27E</b> 47.2 0.4 0.3 68.8%
FY25E 0 -7 -7 -7 0 -7	<b>FY26E</b> 0 -12 -11 -11 -30 -42	<b>FY27E</b> 466 251 245 162 -5 236
N	Managin Ion-Executiv	g Director e Director
	23.06 3.18 1.33 FY25E nm nm nm -2.0% FY25E 0 -7 -7 -7 -7 0 -7 No N N N	\$1.60           Pre-Feasib           re (mt)         (g/t)           23.06         2.01           3.18         1.28           1.33         1.68           2023         -1.3           -1.3         -4.6           8.0         4.1           FY25E         FY26E           nm         nm           nm         nm           nm         nm           7         -12.2%           FY25E         FY26E           0         0           -7         -12           -7         -11           0         -30           -7         -42           Non-Executive Managin Non-Executive Non-Executive

#### Share Price Graph and Trading Volumes



## **Magnetic Resources (MAU)**

## Lady Julie Gold Project

Analyst: Patrick Streater

### **Quick Read**

Magnetic Resources (ASX:MAU) continues to grow its Lady Julie Project with a rapid delineation of the LJN4 deposit over the last 12-months helping grow the project MRE to 1.87Moz at 1.79g/t Au. A PFS reported in August this year outlined an open pit mine life of 8-years producing 104kozpa. MAU continues to drill out the LJN4 deposit at depth with the intention of reporting an underground resource to complement open pit mining at the project. Mineralisation has been intersected at LJN4 at down dip extent of 800m with recent drilling now targeting a 1000m depth extension to LJN4.

## **Location and Tenure**

The Lady Julie Project is located in the Laverton Region of WA proximal to a number of multi-million ounce deposits such as Sunrise Dam, Granny Smith and Wallaby. The region is infrastructure rich with existing milling capacity across various producers. Proximal mills within the area include Mt Morgans (ASX: GMD) and Granny Smith (JSE:GFI), only 15km haulage distance from the Lady Julie Project. MAU submitted a Mining Lease Application for the project in December, 2023.





## The 1.87Moz Lady Julie Project is underpinned by the large scale high-grade LJN4 deposit



The high open pit grades of the Lady Julie Project should deliver strong operating margins

## Lady Julie Project

MAU Lady Julie Project has seen rapid growth in its MRE after deeper drilling at the LJN4 deposit identified a thick high-grade shoot over a 150m strike length with true widths ranging 50-60m. A subsequent drill out of this shoot down to 300m below surface led into an updated MRE of 1.49Moz at 2.01g/t Au for LJN4. This MRE then informed a PFS reported this year which outlined an open pit mining inventory for the Lady Julie Project of 883koz at 1.71g/t Au with 12.5:1 strip ratio. Current drilling at the Lady Julie Project is focused on defining an underground resource at LJN4 with the deepest drilling successfully identifying mineralisation to a depth extent of 800m below surface.

Figure 112: Long section of the LJN4 deposit showing completed and planned drilling.



Source: MAU

### **Argonaut Mining Scenario**

Argonaut's Mining Scenario at Lady Julie models 7.5 year mine life producing 141kozpa at a AISC of 1,641/oz. Our Post-tax NPV6 for the project totals A\$709m using Argonaut gold price assumptions. Our DCF is derived from Argonaut's mining inventory of 1.16Moz at 1.94g/t Au which includes 280koz at 3.3g/t Au of underground mining inventory. Our development scenario considers a new standalone 3Mtpa plant construction for total preproduction capital costs of A\$300m.



# **Special Mentions**

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## **SPEC BUY**

Current Price	\$0.010
Valuation	\$0.025
TSR	150%

Ticker:			OAU
Sector:		Metals	& Mining
Shares on Issue (m):			7,349.8
Fully Diluted SOI (m):			7708.5
· · · ·			
Market Cap (\$m):			73.5
Cash Est. (\$m)			3.4
Debt Est. (\$m)			0.0
Enterprise Value (\$m):			70.1
52 wk High/Low:		\$0.01	\$0.00
12m Av Daily Vol (m):			9.129
<b>Projects</b> Crown Prince		Pre	Stage efeasibility
			,
Mineral Resource	Mt	(g/t)	(koz)
Southeastern Zone	0.99	5.17	164
Main Zone	0.67	2.91	63
Cashflows		2023	2024
Operating Cashflow		-0.9	-0.8
Investing Cashflow		-1.1	-3.7
Financing Cashflow		1.9	6.6
0			
Cash Balance		0.1	2.3
Key Metrics	FY25E	FY26E	FY27E
P/E (x)	nm	0.6	0.7
, , , ,		-0.5	-0.8
EV/Ebit (x)	nm		
EV/Ebitda (x)	nm	-0.5	-0.8
FCF yield (%)	-24.2%	195.3%	150.4%
Dividend yield (%)	0.0%	0.0%	62.5%
Financial Summary	FY25E	FY26E	FY27E
Revenue (A\$m)	0	173	178
Ebitda (A\$m)	-3	119	123
Ebit (A\$m)	-4	115	118
Earnings (A\$m)	-4	97	85
Capex (A\$m)	-10	-8	-3
Free CF (A\$m)	-4	115	118
Directors:			
Alex Passmore			CEO
Rick Crabb		Non-Execu	utive Chair
Frank Demarte		Directo	or & CoSec
Mal Randall	No	on-Executiv	e Director
Substantial Shareholder	s:		%
Westgold			18.7%
Ragged Range			10.3%

#### Share Price Graph and Trading Volumes



# Ora Gold (OAU)

## **Crown Prince Gold Project**

Analyst: Patrick Streater

### **Quick Read**

Ora Gold's (ASX:OAU) Crown Prince Project is a shallow high-grade open pit development targeting first production mid-CY2025. In early 2023, OAU discovered the SEZ lode which saw a step change in the economics of the project by the addition of 163koz at 5.2g/t Au to the Crown Prince MRE. OAU is likely to fast track the development of Crown Prince by treating Crown Prince through the existing Bluebird Mill owned by Westgold Resources (ASX:WGX). Pending agreement with WGX to utilise the Bluebird Mill, we think Crown Prince will be a highly profitable venture for OAU, producing over 160koz in a 2-3 year period completely unhedged with limited upfront capital spend (~A\$15m).

### **Location and Tenure**

The Crown Prince Gold Project is located in the Murchison region of WA, an area with an extensive history of gold mining including current producers Westgold Resources (ASX:WGX) and Ramelius Resources (ASX:RMS). Crown Prince sits on a granted Mining Lease located 15km north of the Meekatharra township and 33km by road from Westgold's Bluebird Mill. OAU have a signed Native Title Agreement in place covering mining activities and will be submitting a Mining Proposal shortly, targeting first production mid-CY2025.

Figure 113: Location of the Crown Prince Gold project in the Murchison region of WA .



OAU are working towards a Maiden Crown Prince Ore Reserve due later this quarter.

### High-grade open pit discovery

OAU has rapidly progressed its Crown Prince Project over the last 12-months following the discovery of the shallow high-grade SEZ lode back in early 2023. A rapid drill out of the SEZ Lode has defined a shallow high-grade MRE reported in February this year totalling 240koz at 4.1g/t Au. This MRE included a Maiden MRE for the SEZ lode which totalled 164koz at 5.2g/t Au. Mineralisation within the SEZ Lode starts at surface with the majority of contained ounces sitting within a wide high-grade core sitting 30-60m below surface Mineralisation is constrained within 2-3 main lodes, the largest of which averages 7-10m wide, with widths of up to 15m in the core of the deposit.

*Figure 114: Cross section of recent drilling reported from the SEZ Lode, part of the Crown Prince Project.* 



Source: OAU

### **Argonaut Mining Scenario**

Argonaut's Mining Scenario at Crown Prince models a low capex start up of ~A\$15m producing 162koz over a 2.5-year period delivering a post-tax NPV6 of A\$184m. Our Mining Scenario assumes OAU will secure an Ore Purchase Agreement with Westgold Resources to treat Crown Prince Ore at the Bluebird Mill. Our model assumes a 70/30 split on gold revenues between OAU and WGX. Our NPV valuation is derived using Argonaut's open pit mining physicals at Crown Prince drawing from a total mining inventory of 170koz at 3.6g/t at with a 10:1 strip.

### Operating margins from the 3.6g/t open pit delivers a project AISC of A\$942/oz

Crown Prince is low capex, high margin open pit targeting first production mid-CY2025



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## **NOT COVERED**

Ticker:			RAU
Sector:		Metals	& Mining
Shares on Issue (m):			94.2
Market Cap (\$m):			24.0
Cash Est. (\$m)			6.5
Debt Est. (\$m)			0.0
Enterprise Value (\$m):			17.5
52 wk High/Low:		<b>\$0.67</b>	\$0.25
12m Av Daily Vol (m):		Ş0.07	0.164
12m/w Duny vor (m).			0.104
Projects			Stage
Tiros	Defin	itive Feasib	ility Study
Mineral Resource	Mt T	'iO2 (%) TR	EO (ppm)
High Grade	120	23%	9,000
Medium Grade	1,500	11%	3,500
Directors:			

Christopher Eager Director Anne Landry D	
Anne Landry D	& CEO
	Director
Philippe Martins D	Director
Justin Clyne D	Director
Substantial Shareholders:	%

41.6%

CDS & CO	22.6%
Resmin	19.7%

Chess Depositary

Share Price Graph and Trading Volumes



## **Resouro Strategic Metals (RAU)**

## **Tiros Titania Rare Earth Element Project**

Analyst: George Ross

### **Quick Read**

RAU's giant Tiros Titanium and Rare Earth Elements Project is located in Minas Gerais, Brazil. Tiros is unique in its scale and grade, representing a new variant of weathered REE deposits. The global MRE is reported as 1.7 billion tonnes grading 12% Ti2O and 3,900ppm TREO (1,100ppm MREO). Technical studies including metallurgical tests are currently underway to support release of a Preliminary Economic Assessment (PEA) expected sometime in CY2025. If developed, RAU could become a significant global player in both the titania and rare earth element markets.

## **Location and Tenure**

Tiros is located approximately 250k west northwest of Belo Horizonte and comprises twenty-five exploration concessions, cover a total of 45,000 Ha. These tenements are 90% owned by RAU with vendor RBM Consultoria Mineral Eireli retaining 10%. Surface rights are held by private farming landholders. The project benefits from proximity to paved roads, powerlines and rail infrastructure.

*Figure 115: (Left) Tiros project regional tenement map with key infrastructure. (Right) Expanded tenure map over the Tiros Central area with drilling completed to date.* 



Source: RAU

### Geology

Tiros is a regolith deposit, hosted within sandstones and conglomerates of the Capacete Formation. The Capacete Formation formed as the result of erosion of voluminous kamafugite pyroclastic flows and deposits. Titanium is associated with the mineral anatase

and originated from the alteration of perovskite. Rare earth elements are suspected to be associated with ionic clays. Deposits of Capacete Formation have been progressively weathered, remobilising metals in flat oxidation horizons within the stratigraphic layer (Figure 116). The flat lying Capacete Formation is mildly resistant to erosion and generates plateaus with incised gullies. Certain areas of the deposit have much of the depleted overburden eroded away, exposing high grade mineralised material at surface.



Figure 116: Rare earth grade cross section through part of the Tiros project.

### **Giant Mineral Resource**

RAU delivered its maiden Tiros MRE in July of 2024. The medium grade global MRE is reported as 1.7 billion tonnes grading 12% Ti2O and 3,900ppm TREO (1,100ppm MREO) for 204Mt Ti2O and 6.63Mt TREO. The global figure includes a higher-grade component of 120Mt grading 23% Ti2O and 9,000ppm TREO (2,400 MREO) for 28Mt Ti2O and 1.08mt TREO.

### **Innovative Approach to Processing**

Ongoing metallurgical studies are evaluating various types of processing options. Sighter processing tests recently performed by Altilium Projects (Australia) demonstrated that over 96% of magnet rare earths oxide can be extracted from the ore usings its patented nitric acid technology. Altilium's Ti/REE Process was adapted from a comparable process developed for treatment of nickel laterite and uses concentrated nitric acid at elevated temperatures. Once processed, almost all nitric acid will be recovered from the circuit and reused.

The next step in metallurgical tests will be proof on concept work towards production of a high value TiO2 product with low niobium, phosphate and zirconium. Commercial grade iron and silica product outputs will also be produced for sale to customers. It is expected these would be transported away from site via truck or rail. Being able to sell these products eliminates the need for a tailings facility as almost all ore volume will be removed from site. The next phase of test work will be used to optimize process conditions for the Tiros PEA.

## Metals concentrated at an oxide weathering horizon

Global MRE of as 1.7 billion tonnes grading 12% Ti2O and 3,900ppm TREO

Source: RAU



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## **SPEC BUY**

Current Price	\$0.37
Valuation	\$0.70
TSR	89%

Ticker: Sector:		Metals	WC8 & Mining
Shares on Issue (m): Market Cap (\$m): Cash Est. (\$m): Debt Est. (\$m): Enterprise Value (\$m):			<b>1,236.6</b> <b>457.5</b> 69.3 4.0 <b>392.2</b>
52 wk High/Low: 12m Av Daily Vol (m):		\$0.92	\$0.19 5.673
<b>Projects</b> Tabba Tabba	Re	source Dev	Stage velopment
Cashflows		2023	2024
Operating Cashflow		-1.0	-2.7
Investing Cashflow		-1.8	-25.8
Financing Cashflow		5.6	96.9
Cash Balance		8.8	77.2
Key Metrics	FY25E	FY26E	FY27E
FCF yield (%)	-8.2%	-10.6%	-19.8%
Financial Summary	FY25E	FY26E	FY27E
Ebitda (A\$m)	-12	-12	-13
Ebit (A\$m)	-11	-12	-15
CapeX (A\$m)	-1	-1	-43
Free CF (A\$m)	-12	-13	-13
Debt (cash) (A\$m)	-42	-93	-56
Gearing (%)	-23%	-43%	-24%
Disestant			
Directors: Jeff Elliot	Non	-Executive	Chairman
AJ Saverimutto			g Director
Matt Banks			e Director
Sam Ekins			al Director
Fiona Van Maanen		n-Executiv	
Melissa McClelland Torrin Rowe	1	Exploration	Manager Manager
Tim Mannners	C	hief Financ	
Substantial Sharehold Mineral Resources	ers:		% 16.8%
wineral Resources			16.8%
Share Price Graph and	l Trading V	olumes	
Share Price Graph and	l Trading V	olumes	80

0.60

0.40

0.20

0.00

Nov-23

Feb-24

May-24

Aug-24

# Wildcat Resources (WC8)

## Tabba Tabba Lithium Project

Analyst: Hayden Bairstow

## Quick Read

WC8's Tabba Tabba deposit is shaping up to be one of Australia's most significant hard rock lithium discoveries of the past decade. WC8 acquired Tabba Tabba last year and drilled the discovery hole in September 2023, which returned an intersection of 85m @ 1.1% Li2O (including 59m @ 1.5% Li2O). A major drill out of the deposit has been ongoing since the discovery was made, with over 115,000m of drilling defining multiple stacked spodumene bearing pegmatites.

## **Location and Tenure**

Tabba Tabba is located 80km by road from Port Hedland, Western Australia. The project is only 47km from Pilbara Minerals' Pilgangoora Lithium Project (414Mt at 1.15% Li2O) and 87km from Mineral Resources' Wodgina Lithium Project (259Mt a 1.17% Li2O). The deposit is located on granted Mining Leases which were historically mined for tantalum in 2015.

Figure 117: Tabba Tabba pegmatites, drilling and Mining leases.



Source: WC8

60

50

40

30

20

10

Λ



## **Drilling Results & Argonaut Estimate**

WC8 has completed over 115,000m of drilling at Tabba Tabba, with the bulk of the metres drilled focused on the Leia, Chewy and Tabba pegmatites. More recent drilling has focused on Luke. Leia, is the thickest and most voluminous of the pegmatites defined to date. Highlight drilling results recently from Leia include: 84.0m @ 1.4% Li2O from 236.0m, 89.8m @ 1.2% Li2O from 260.0m & 52.2m @ 1.1% Li2O from 107.1m. Argonaut's most recent deposit model estimates an exploration target of 65mt grading 1.0% Li2O. WC8's Tabba Tabba maiden MRE is expected to be released prior to the end of CY24. The geometries of defined pegmatites should convert to relatively low waste-ore strip ratio open pits.

### Multiple parallel pegmatites

Figure 118: Longitudinal section of the Tabba Tabba pegmatite field showing lithium grade distribution.



Source: WC8





Source: WC8

## **Metallurgy Results**

Whole of ore flotation tests completed to date have achieved recoveries ranging from 79-84% for SC5.5, and 72-84% for SC6.0 specification product. These recoveries were achieved at a coarse grind size of 212 $\mu$ m. Site ground water test work indicates high quality, low salinity, low TDS and ~neutral- alkaline pH.

Argonaut has modelled Tabba Tabba



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## **SPEC BUY**

Current Price	\$0.14
Valuation	\$0.28
TSR	100%

Ticker:			WIA		
Sector:		Metals	& Mining		
Shares on Issue (m):			1,157.7		
Market Cap (\$m):			162.1		
Cash Est. (\$m)			40.0		
Debt Est. (\$m)			0.0		
Enterprise Value (\$m):			122.1		
52 wk High/Low:		\$0.18	\$0.03		
12m Av Daily Vol (m):			1.684		
Projects			Stage		
Kokoseb	Reso	urce Deve	elopment		
Mineral Resource	Mt	g/t Au	Moz Au		
Kokoseb	66.0	1.0	2.1		
Cashflows		2023	2024		
Operating Cashflow		-0.7	-1.3		
Investing Cashflow		-6.5	-10.7		
Financing Cashflow		6.2	25.9		
Cash Balance		1.2	15.1		
Cash Balance		1.2	15.1		
Key Metrics	FY25E	FY26E	FY27E		
FCF yield (%)	-9.8%	-10.3%	-137.4%		
Financial Summary	FY25E	FY26E	FY27E		
Ebitda (A\$m)	-14	-15	-10		
Ebit (A\$m)	-14	-15	-10		
Earnings (A\$m)	-14	-15	-17		
Capex (A\$m)	0	0	-208		
Free CF (A\$m)	-14	-15	-10		
Debt (cash) (A\$m)	-20	-24	43		
Gearing (%)	-75%	-95%	19%		
Directors:		_			
Josef El-Raghy			tive Chair		
Andrew Pardey	Non-Executive Director Non-Executive Director				
Mark Arnesen	Non-	Executive			
Scott Funston			CFO		
Substantial Sharehold	Substantial Shareholders: %				
Capital DI Limited			19.9%		
BPM Investments			11.4%		
Mr Josef El-Raghy			6.1%		

#### Share Price Graph and Trading Volumes



# WIA Gold (WIA)

## **Kokoseb Gold Project**

Analyst: Patrick Streater

### **Quick Read**

WIA's Kokoseb project located in Namibia is an emerging discovery with its second MRE reported in April this year totalling 2.12Moz at 1.0g/t Au (US\$1,800/oz pit shell). WIA continues to grow the deposit whilst advancing a Scoping Study which is due for completion in mid-CY2025.

### **Overview**

### **Location and Tenure**

Kokoseb is located in the Damaran Belt of Namibia which is an emerging mining province with a supportive and stable government. Existing operations in the region include B2Gold's Otjikoto Mine and Yintai Gold's Twin Hills 3.1Moz development.





Source: WIA

#### **Geology and Resource**

Kokoseb was discovered in June 2022 with systematic drilling by WIA since having grown the resource to 2.12Moz contained within a single continuous open pit over 4.8km long. Kokoseb is hosted within a schist unit wrapped around a granitic pluton with the widest zones of mineralisation up to 40m wide formed fold closures. Mineralisation is characterised by wide shallowly dipping continuous lodes that outcrop at surface.



### **Production scenario**

WIA reported the second MRE for Kokoseb earlier this year with plans to report an updated MRE by mid-CY2025. We currently model Kokoseb to be a +155kozpa open pit operation over a 10-year mine life producing at a LOM AISC cost of A\$1,550/oz. Kokoseb will be a new standalone development with likely a +5Mtpa mill. The Kokoseb area is well-serviced by existing infrastructure including well-maintained roads and sealed highways, nearby grid power, and supportive nearby townships.

#### Figure 121 - Argonauts Kokoseb Production Outlook.



Our base case models a 10-year mine life producing 155kozpa

Source: Argonaut Research, Company Reports



*Figure 122 - Kokoseb's wide continuous zones of outcropping mineralisation are ideal for large-scale open-pit mining.* 

Source: WIA

Kokoseb's width and geometry is ideal for large scale open pit mining



#### RESEARCH:

Hayden Bairstow | Executive Director, Head of Research +61 8 9224 6835

lan Christie | Director Research - Industrials +61 8 9224 6872

Jon Scholtz | Director Research – Metals & Mining +61 8 9224 6873

George Ross | Senior Analyst, Metals & Mining Research +61 8 9224 6840

Pat Streater | Analyst, Metals & Mining Research +61 8 9224 6869

#### INSTITUTIONAL SALES:

Chris Wippl | Executive Director, Head of Institutional Sales +61 8 9224 6875

Damian Rooney | Director, Institutional Sales Trader +61 8 9224 6862

Josh Welch | Institutional Research Sales +61 8 9224 6868

George Ogilvie | Institutional Research Sales +61 8 9224 6871

Jonathan Bank | Institutional Research Sales +61 2 4086 9413

Matt Middlemas | Associate, Institutional Sales +61 8 9224 6803

John Santul | Consultant, Institutional Sales & Research +61 8 9224 6859

CORPORATE AND PRIVATE CLIENT SALES:

Glen Colgan | Executive Director, Desk Manager +61 8 9224 6874

Kevin Johnson | Executive Director, Corporate Stockbroking +61 8 9224 6880

Ben Willoughby | Senior Dealer, Corporate Stockbroking +61 8 9224 6876

David Keogh | Senior Dealer, Corporate Stockbroking +61 8 9224 6852

Geoff Barnesby-Johnson | Senior Dealer, Corporate Stockbroking +61 8 9224 6854

James Massey | Dealer, Corporate Stockbroking +61 8 9224 6849

Cameron Prunster | Dealer, Private Clients +61 8 9224 6853

Harry Massey | Dealer, Private Clients +61 8 9224 6829

Jake Solomon | Dealer, Private Clients +61 8 9224 6855

Matej Mandic | Dealer, Private Clients +61 8 9224 6887

Amanda Fu | Dealer, Private Clients +61 8 9224 6805

#### ECM:

Eddie Rigg | Executive Chairman, Head of ECM +61 8 9224 6804

Kaiden Gilbert | Director, Corporate Finance +61 8 9224 6895

Rob Telford | Director, Equity Capital Markets +61 8 9224 6885

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Ausgold Ltd (AUC): Argonaut holds or controls 3M options exercisable at \$0.6 expiring 31 March 2025.

*Capricorn Metals Limited (CMM):* Argonaut Securities Pty Ltd acted as Global Coordinator, Joint Lead Manager and Joint Bookrunner in relation to the Placement to raise up to \$200M announced in October 2024 and will receive fees commensurate with these services.

Centaurus Metals Limited (CTM): Argonaut holds or controls 261,638 CTM shares.

*De Grey Mining Ltd (DEG):* Argonaut Securities Pty Limited acted as Joint Lead Manager and Joint Bookrunner, and Argonaut PCF Limited acted as Joint Underwriter to the Placement to raise up to \$600M announced on 8 May 2024 and received fees commensurate with these services.

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Firefly Metals Ltd (FFM): Argonaut Securities Pty Ltd acted as Co-Manager in respect of the Placement to raise \$60M announced in September 2024 and received fees commensurate with this service. Argonaut Securities Pty Ltd acted as Co-Manager in respect of the Placement to raise \$52.2M announced in March 2024 and received fees commensurate with this service. Argonaut holds or controls 210,660 FFM shares.

Global Lithium Resources Ltd (GL1): Argonaut holds or controls 4,493,114 GL1 options exercisable at \$0.3 expiring 10 May 2025.

*Lunnon Metals Ltd (LM8):* The Non-Executive Chair of Lunnon Metals Ltd (LM8), Mr. Liam Twigger, also holds roles with the Argonaut Group: Deputy Chair of Argonaut Limited and Executive Director, Corporate Finance. Mr Twigger is not involved in the creation of research material on LM8 in any way. The views expressed in LM8 research material accurately reflect the relevant analyst's personal views about LM8. Argonaut holds or controls 725,200 LM8 shares.

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New World Resources Limited (NWC): Argonaut PCF acted as Financial Advisor to the Royalty Financing to raise \$11M announced in November 2023 and received fees commensurate with this service.

NexGen Energy Ltd (NXG): Argonaut acted as Co-Lead Manager in respect of the \$250M Institutional Placement announced on 30 April 2024 and received fees commensurate with this service.

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Patriot Battery Metals Inc (PMT): Argonaut Securities Pty Limited acted as Joint Lead Manager and Joint Bookrunner in respect of the Sale Offer of CHESS Depository Interests (CDIs) via a block trade to raise \$44M announced in May 2024 and received fees commensurate with these services. Argonaut holds or controls 600,000 PMT shares.

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### Argonaut is a specialist natural resources investment banking firm

- > Full service capability across financial advisory, corporate finance, stockbroking & research, funds management and principal investment located in Perth and Sydney, Australia
- > Technically driven and focused on Metals & Mining, Energy, Agribusiness Businesses and Contractors that service the natural resource sector as well as select Industrial companies with market capitalisations between \$30 million and \$5 billion
- > Led by a highly experienced executive team with deep industry knowledge, who have previously held senior executive roles at leading international investment banks and securities houses
- > Recognised in our target markets as a trusted adviser with a strong track record of success.
- > Top rated industry & technical expertise on staff five Geologists, two Mining Engineers, one Metallurgist and two Mandarin speakers



### Argonaut PCF (Financial Advisory & Corporate Finance)

- Mergers & Acquisitions
- Equity Capital Markets
- Debt Capital Markets
- Financial Advice
- Restructuring Advice

## Argonaut Partners

(Special Situations Financing)

- Strategic Investments, including Salubris
- Non-Standard Loans
- Bridge Facilities
- Early-Stage Seed and Pre-IPO Funding

### Argonaut Securities (Stockbroking & Research)

- Institutional Research Driven
- ASX and Chi-X
- Institutional Equity Sales
- Experienced Dealing and Corporate Stockbroking Team

### **Argonaut Funds Management**

- Argonaut Natural Resources Fund
- Argonaut Global Gold Fund
- AFM Perseus Fund
- Decarbonisation

Trading Participant of ASX Rule 15a-6 Foreign Broker-Dealer arrangement in the US Canadian International Dealer Exemption

Argonaut is committed to maximising value in transactions by aligning the capabilities of its full range of financial services



## Key Argonaut Transactions (CY24) + \$10m Transaction Value

<ul> <li>★ Add Spondon</li> <li>★ Add A</li></ul>					
With Gold       Capricon Metadi       S200,000,000         Picementis       \$200,000,000         Picementis       S200,000,000         Picementis       S200,000,000         Picementis       Capricon Metadi         Catolar 2024       Picementis         Vita di de Carinary III       Catolar 2024         Vita di de Carinary IIII       Catolar 2024         Vita di de Carinary IIIII       Catolar 2024         Vita di de Carinary IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		GAMMEDOWN	<b>WESTGOLD</b>		HORIZON
Pacements Lead & 0Manager       Pacements Lead & 0Manager       Pacements Lead & 0Manager       Pacements & Scill Down Lead Mainer       Pacements & Scill Down       Pacement & Scill Down       Pacement & Scill Down       Pacement & Scill Down       Pacement & Sc		Capricorn Metals		TOLU MINERALS Tolu Minerals	MINERALS LTD
Indefinition       Pacements       Pacements <td>\$46,900,000</td> <td>\$200,000,000</td> <td>\$300,000,000</td> <td>\$37,800,000</td> <td>\$100,000,000</td>	\$46,900,000	\$200,000,000	\$300,000,000	\$37,800,000	\$100,000,000
Lead & Los Ananger       Lead Anager       Lead Anager       Calibrer 2024         Worember 2024       Calibrer 2024       Calibrer 2024       Calibrer 2024       Calibrer 2024         Image: Calibrer 2024       Calibrer 2024       Calibrer 2024       Calibrer 2024       Calibrer 2024         Image: Calibrer 2024       Image: Calibrer 2024       Calibrer 2024       Calibrer 2024       Image: Calibrer 2024       Calibrer 2024         Image: Calibrer 2024       Image: Calibrer 2024       Image: Calibrer 2024       Image: Calibrer 2024       Image: Calibrer 2024       Image: Calibrer 2024         Image: Calibrer 2024       Image: Calibrer	Placements	Placement		Placements & Sell Down	
November 2024       October 2024       October 2024       Description         November 2024       October 2024       October 2024       October 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024       Image: Control 2024         November 2024       Image: Control 2024         November 2024       Image: Control 2024 <td>Lead &amp; Co-Mana aer</td> <td></td> <td></td> <td>Lead Mana aer</td> <td>Finan cial Adviser a nd</td>	Lead & Co-Mana aer			Lead Mana aer	Finan cial Adviser a nd
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Image: Construction of the construc					
Image: Construction of the construc	TURACO			<b>Fine The</b>	rt .
\$43,000,000       \$10,300,000       \$43,000,000       \$117,000,000       Bit 17,000,000         Placements       Leed Manager       October 2024       Placement       Bit Leed Manager         October 2024       Cacher 2024       Placement       Bit Leed Manager       September 2024       Placements         Develop Global       \$10,000,000       Placement       Placement       Placement       Placement         Develop Global       \$38,000,000       Scheme of Arangement       With Accel-KOR       Placements       Scheme of Arangement         Met Leed Manager       \$38,000,000       Scheme of Arangement       Placements       Scheme of Arangement         Met Leed Manager       Scheme of Arangement       Placements       Scheme of Arangement       Placements         Leed Manager       Scheme of Arangement       Placements       Scheme of Arangement       Placements         Leed Manager       Scheme of Arangement       Placements       Placements       Scheme of Arangement         De Grey Mining       \$57,200,000       Placement       Placement       Placement       Placement         Schet Leed Manager       Schet Leed Manager       Schet Leed Manager       Placement       Placement       Schet Leed Manager         Schet Leed Manager       Schet Leed Manager		BEACON MINERALS LIMITED	MINERALS		magnetic resources
Placements       Underwritten Entklement Offer       Placement       Placements       Gdmarger         October 2024       Decement       Brit Lead Manager       September 2024       Placements       Coder 3024         Decelop Global       KCPV       Status       KCPV       September 2024       File       Code 300	Turaco Gold	Beacon Minerals	Northem Minerals	Firefly Metals	Magnetic Resources
Lead & Joint Lead Manager October 2024       Joint Lead Manager September 2024       Contanger September 2024       Lead & Joint Lead Manager September 2024       Lead & Manager September 2024         Image: September 2024       Image: September 2024       Image: September 2024       Image: September 2024       Image: September 2024       Image: September 2024         Image: September 2024	\$43,000,000	\$10,300,000	\$43,000,000	\$117,000,000	\$22,000,000
Lick and Mindager October 2024       Lick and Mindager September 2024       Lick and Mindager September 2024       Lick and Mindager September 2024       September 2024       September 2024         Image: Develop Global       Image:	Placements	Underwritten Entitlement Offer	Placement	Placements	Placements
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Develop Global       Image: Signad Advise: September 2024         Develop Global       \$38,000,000         Placement       \$38,000,000         Placement       \$36,000,000         Placement       Det Hana da Advise: September 2024         De Grey Mining       \$57,200,000         Placement       \$57,200,000         Placement       \$57,200,000         Placement September 2024       \$57,200,000         Placemen	October 2024	October 2024	September 2024	September 2024	September 2024
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Develop Global       Image: Signad Advise: September 2024         Develop Global       \$38,000,000         Placement       \$38,000,000         Placement       \$36,000,000         Placement       Det Hana da Advise: September 2024         De Grey Mining       \$57,200,000         Placement       \$57,200,000         Placement       \$57,200,000         Placement September 2024       \$57,200,000         Placemen		L'offy			= BCI
\$10,000,000       \$38,000,000       \$36,000,000       \$2,400,000,000       \$72,600,000         Placement       Scheme of Arrangement       With Accel-KKR       Placements       Doint Lead Manager       Sale of iron Valley Assets         Lead Manager       September 2024       September 2024       Placements       Hangust 2024       Merger with Karora Resources       Finan dal Adviser         September 2024       September 2024       Finan dal Adviser       August 2024       Imager       June 2024         Imager       September 2024       Imager       August 2024       Imager       Imager       Imager       June 2024         Imager       September 2024       Imager	JEVELOP	Neity	RESOURCES LIMITED	WESIGOLD	
Placement       Scheme of Arrangement with Accel-KKR       Placements       Merger with Karora Resources       Finan dal Adviser         September 2024       September 2024       Lead Manager       August 2024       Linden dal Adviser         September 2024       September 2024       Image: Specific Control Contrecontro Contrel Control Control Contrecontrol Control C	Develop Global	K2Fly	Brightstar Resources	Westgold Resources	BCI Minerals
Placement       with Accel-KKR       placements       merger with Karora Resources       sae of fron Valley Assets         Lead Manager       Joint Finan dal Adviser       Joint Lead Manager       August 2024       Finan dal Adviser         Septemb or 2024       Septemb or 2024       Joint Lead Manager       August 2024       Finan dal Adviser         De Grey Mining       Image for the finan dal Adviser       August 2024       Merger with Karora Resources       Finan dal Adviser         Septemb or 2024       Image for the finan dal Adviser       August 2024       August 2024       Finan dal Adviser         De Grey Mining       Image for finan dal Adviser       Air Mines       Image for finan dal Adviser       June 2024         Placement & Entitlement Offer       \$577,200,000       Flow-through financing       De for the dad Manager       De finan dal Adviser         Joint Lead Manager & Joint Lead Manager       Joint Lead Manager       Joint Lead Manager       Merger with Brightstar Resources	\$10,000,000	\$38,000,000	\$36,000,000	\$2,400,000,000	\$72,600,000
September 2024September 2024August 2024June 2024September 2024June 2024June 2024September 2024June 2024June 2024September 2024September 2024June 2024September 2024June 2024June 2024September 2024September 2024June 2024September 2024	Placement		Placements	Merger with Karora Resources	Sale of Iron Valley Assets
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Ministric       AIC Mines       Mainted AIC Mines       Mainted AIC Mines       Mainted Patriot Battery Metals       MexCen Energy       Linden Gold         be Grey Mining       \$600,000,000       \$57,200,000       \$C\$75,000,000       US\$250,000,000       \$62,000,000         Placement & Entitlement Offer Joint Lead Manager & Joint Lead Manager       Placement       Flow-through financing       Placement       Merger with Brightstar Resources	September 2024	September 2024	August 2024	August 2024	June 2024
Ministric       AIC Mines       Mainted AIC Mines       Mainted AIC Mines       Mainted Patriot Battery Metals       MexCen Energy       Linden Gold         be Grey Mining       \$600,000,000       \$57,200,000       \$C\$75,000,000       US\$250,000,000       \$62,000,000         Placement & Entitlement Offer Joint Lead Manager & Joint Lead Manager       Placement       Flow-through financing       Placement       Merger with Brightstar Resources					
De Grey Mining     AIC Mines     Patriot Battery Metals     NexGen Energy       \$600,000,000     \$57,200,000     \$\$75,000,000     U\$\$250,000,000       Placement & Entitlement Offer     Placement     Flow-through financing     Placement       Joint Lead Mana ger & Joint Lead Mana ger     Joint Lead Mana ger     Co-Mana ger     Flow-through diviser	DE GREY	G	PATRIOT	( Nov Con	
Image: Note of the second s	Y MINING LTD	Limited	( and )	Energy Ltd.	
Placement & Entitlement Offer     Placement     Fbw-through financing     Placement       Joint Lead Manager & Joint Lead Manager     Joint Lead Manager     Co-Manager	De Grey Mining	AIC Mines	Patriot Battery Metals	NexGen Energy	Linden Gold
Joint Lead Mana ger & Joint Lead Mana ger Joint Lead Mana ger Co-Mana ger Finan dal Adviser	\$600,000,000	\$57,200,000	C\$75,000,000	US\$250,000,000	\$62,000,000
Joint Underwriter Joint Lead Mana ger Joint Lead Mana ger Co-Mana ger Finan dal Adviser		Placement	Flow-through financing	Placement	Merger with Brightstar Resources
		Jo int Lead Mana ger	Jo int Lead Mana ger	Co-M ana ger	Finan ci al Adviser
		May 2024	May 2024	May 2024	March 2024

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