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10 Year Anniversary Edition

Metals & Mining Research

Best Undeveloped Projects

November 2023

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Cover Photo

Cover photo is the Bellevue Gold Project in Western Australia (Source: BGL)

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Argonaut has selected 11 projects in the 10th edition of its Best Undeveloped Projects (BUPs) book, with another 12 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 BUPs projects reflects an ongoing focus on the decarbonisation theme

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

Timelines are getting stretched for a variety of reasons, exacerbating the potential for a supply crunch later this decade

Important Disclosures:
Please refer to important disclosures for AUC, AUT, CTM, DEG, EV1, GL1, LM8, NWC, NXG, NTU, PMT, PDI, WIA and other disclosures from page 96

Argonaut's Best Undeveloped Projects

Argonaut has completed its 2023 analysis and the 10th 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

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.

2022 BUPs project progression: Most BUPs companies have significantly advanced their projects since the release of last year's book with one, OreCorp, subject to a takeover offer from Silvercorp. Politics and conflict held back to varying degrees the Salamanca project (Berkeley) in Spain, the Goulamina project (Leo Lithium) in Mali, and the Meyas Sand project (Perseus) in the Sudan.

2022 BUPs performance: The BUPs projects performed well relative to major indices, with BUPs companies' share prices up on average 6% over the 12-month measurement period to 31 October compared to a drop of 4% for the S&P/ASX Small Resources Index and a 1% drop for the S&P/ASX 200 Index. Prior to the general decline in share prices from late July BUPs companies were up on average over 40% and at their peak prices for each company, BUPs was up over 80%. This volatility was even more apparent in earlier stage Special Mention projects, whose owners' share prices did not fare as well. The best BUPs performer over the period was Bellevue, climbing 95%.

Key themes: Project timelines continue to get stretched for a variety of reasons, which we discuss in the front section of this book. Capital constraints, a tangle of red and green tape, and geopolitical risks make it harder to move a project forward in a timely manner, encouraging growth by acquisition rather than exploration and development. The former does not grow supply in aggregate, in our view exacerbating what we increasingly see as a looming commodity supply crunch, particularly in the decarbonisation space.

2023 Best Undeveloped Projects & Special Mentions

Best Undeveloped Projects

Based on our criteria, a list of eleven projects have been selected for our 2023 BUPs as shown in Table 1 below.

Table 1: 2023 Best Undeveloped Projects

Company	Project	Ticker	Commodity	Location	Market Cap A$m	Cash A$m	Debt A$m	EV A$m
2023 Best Undeveloped Projects								
Atlantic Lithium	Ewoyaa	A11	Lithium	Ghana	245	11	-	234
Centaurus Metals	Jaguar	CTM	Nickel	Brazil	259	45	-	214
De Grey	Mallina	DEG	Gold	Australia	2,078	383	-	1,695
Evolution Energy	Chilalo	EV1	Graphite	Tanzania	31	2	-	29
Global Lithium	Manna	GL1	Lithium	Australia	309	53	-	256
New World	Antler	NWC	Copper	USA	77	14	-	63
NexGen	Rook I	NXG	Uranium	Canada	4,422	418	213	4,218
Northern Minerals	Browns Range	NTU	Rare Earths	Australia	189	30	-	160
Peak Resources	Ngualla	PEK	Rare Earths	Tanzania	102	21	-	81
SolGold	Cascabel	SOLG	Copper	Ecuador	499	70	-	429
Sovereign	Kasiya	SVM	Rutile	Malawi	270	43	-	227

Source: Company data, FactSet, Argonaut estimates

Note: Stock Market capitalisation as at 9 November 2023. Cash and debt are latest available adjusted for subsequent capital events.

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) average 38% and range between 19% and 105%. SolGold's Cascabel project is not majority owned by an ASX-listed entity and has a sub-25% IRR. However, it has been included in this year's BUPs on the basis that its largest shareholders and senior board and management personnel are based in Australia, and its scale and mine life more than compensate for the lower IRR.

Table 2: 2023 Best Undeveloped Projects metrics and feasibility assumptions

Project	Ticker	Commodity	Location	Project NPV (A$m)	Disc. Rate %	IRR (%)	Capex A$m	First Prod'n (Year)	Country Risk
Ewoyaa	A11	Lithium	Ghana	2,142	8%	105%	265	2025	Moderate
Jaguar*	CTM	Nickel	Brazil	1,072	9%	45%	450	2027	Moderate
Mallina*	DEG	Gold	Australia	2,329	6%	35%	1,345	2026	Low
Chilalo*	EV1	Graphite	Tanzania	444	8%	27%	171	2026	High
Manna*	GL1	Lithium	Australia	766	7%	60%	302	2027	Low
Antler	NWC	Copper	USA	1,192	7%	40%	357	2027	Low
Rook I*	NXG	Uranium	Canada	4,802	8%	60%	1,301	2027	Low
Browns Range*	NTU	Rare Earths	Australia	500	7%	30%	490	2027	Low
Ngualla	PEK	Rare Earths	Tanzania	1,483	8%	37%	501	2026	High
Cascabel	SOLG	Copper	Ecuador	4,152	8%	19%	3,922	2030	High
Kasiya*	SVM	Rutile	Malawi	1,568	10%	25%	852	2027	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 in Table 3 below twelve Special Mention companies 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. Greatland is not ASX listed, however the Havieron project has been included because of its location in WA, its quality, and as Greatland is preparing for a cross-listing on the ASX in 2024.

Table 3: 2023 Special Mentions

Company	Project	Ticker	Commodity	Location	Market Cap A$m	Cash A$m	Debt A$m	EV A$m
2023 Special Mentions								
Ausgold	Katanning	AUC	Gold	Australia	68	5	-	63
Azure Minerals	Andover	AZS	Lithium	Australia	1,815	111	-	1,703
Berkeley	Salamanca	BKY	Uranium	Spain	163	80	-	83
Emerald	North Laverton	EMR	Gold	Australia	1,598	110	56	1,544
Greatland	Havieron	GGP	Gold	Australia	897	59	-	838
Lunnon	Kambalda	LM8	Nickel	Australia	151	32	-	119
Meteoric	Caldeira	MEI	Rare Earths	Brazil	466	9	-	457
Patriot	Corvette	PMT	Lithium	Canada	1,244	163	-	1,081
Predictive	Bankan	PDI	Gold	Guinea	424	35	-	389
Spartan	Never Never	SPR	Gold	Australia	413	28	-	384
WA1 Resources	Luni	WA1	Niobium	Australia	579	23	-	556
Wia Gold	Kokoseb	WIA	Gold	Namibia	33	10	-	23

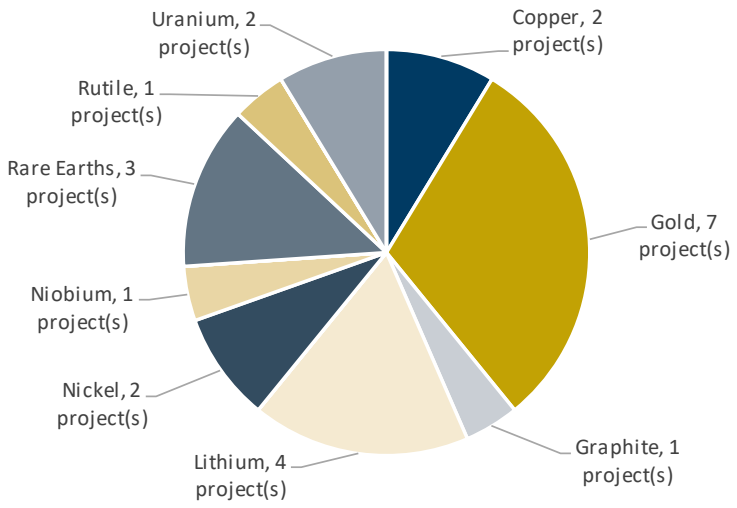
Source: Company data, FactSet, Argonaut estimates

Stock Market capitalisation as at 9 November 2023. Cash and debt are generally as at 30 September unless later dated information available.

Commodity and Country Splits

Despite gold projects delivering a mixed performance over the last few years there remains a strong case to be made for the metal, particularly during a period of elevated global risks and inflation. As shown in Figure 1, of the 23 total projects included this year, 7 of them (or 30%) are gold-related, although notably these are mostly on the Special Mentions rather than the main BUPs list. The tailwinds behind other metals, particularly those exposed to long-term global growth and the decarbonisation thrust, remain powerful. As in previous years we have numerous projects exposed to this thematic on both our lists. We also include an exposure to uranium, which we continue to maintain has an important decarbonisation role.

Figure 1: 2023 BUPs & Special Mentions Commodity Splits by Number of Projects

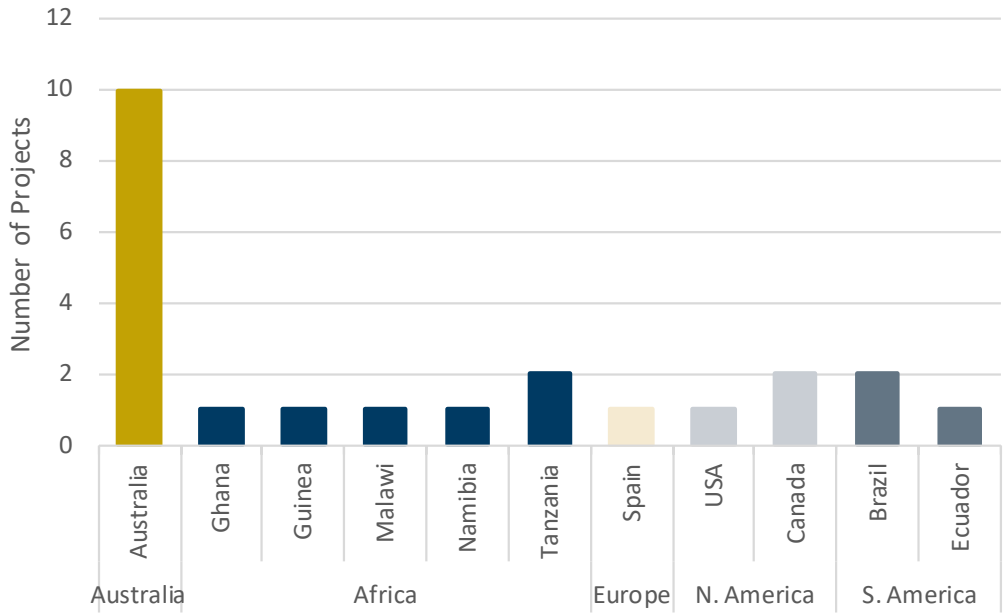


Source: Argonaut

Given we're limited primarily to ASX-listed companies in this book, it's unsurprising that the bulk of the projects (43%) are in Australia (see Figure 2). Five of these are gold related, with the other five projects exposed to lithium (2), nickel, rare earths, and niobium. As in previous years Africa continues to be a fruitful hunting ground for quality projects, although the potential for higher reward from this region tends to come with higher risk. Of the six projects in Africa, two are in Tanzania and one in each of Ghana, Guinea, Malawi, and Namibia.

Europe has one project on the Special Mentions list (uranium in Spain), and we have included three South American projects. Australian companies have typically found it difficult going in South America, but the projects identified in this year's book are worthy of inclusion. One of these, a project in Ecuador, is held by London listed SolGold but we have given it the benefit of inclusion since decent copper projects are so hard to find and there are ties to Australia as mentioned previously. Finally, we have three projects located in North America, the two in Canada from last year's book, and a new copper project in the USA.

Figure 2: 2023 BUPs & Special Mentions Regional/Country Splits by Number of Projects



Source: Argonaut

2022 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 2022 book over the last year.

With a few exceptions the 2022 BUPs projects have advanced strongly over the year and Silvercorp has made an offer under a Scheme of Arrangement for OreCorp. However, project progression has been curtailed on three projects due to permitting issues for Berkeley's Salamanca project in Spain, political uncertainty for Leo Lithium's Goulamina project in Mali, and conflict threat for Perseus's Meyas Sand project in the Sudan.

Table 4: 2022 BUPs Project Progress

Project	Status October 2022	Progress to Date
2022 Best Undeveloped Projects		
Bellevue (BGL)	The Bellevue Gold Project was under development with construction of its 1.0Mtpa processing facility underway and native title agreements in place.	A $60m placement and $25m SPP was completed in December 2022 to accelerate underground development, bring forward development of the Tribune mining front and fund additional exploration, resource development and grade control drilling. A toll treating agreement was signed with Genesis Minerals to generate early cash flows. Practical completion of the plant complete with first gold poured on the 25 October 2023. Commissioning is reported to be on track with cash neutrality planned for the December quarter.
Salamanca (BKY)	In 2019, BKY reported the project was funded and construction would begin in 2020. In late 2021, Spain's Ministry for Ecological Transition and Demographic Challenge formally rejected BKY's authorisation to build a uranium processing plant. It is unable to proceed without approval of the NSC II permit.	The Company has submitted a contentious-administrative appeal before the Spanish National Court following notification from the Ministry for Ecological Transition and the Demographic Challenge (MITECO) in relation to the rejection of the administrative appeal filed by the Company against MITECO's rejection of the Authorisation for Construction for the uranium concentrate plant as a radioactive facility (NSC II) at the Salamanca project.
Jaguar (CTM)	The Jaguar Project was at the Scoping Study stage as of May 2021 with an ongoing drilling campaign aimed at increasing the MRE to +100Mt from 81Mt at 0.91% Ni for 731kt of contained Ni.	Progress in the last 12 months included 60,000m of diamond and RC drilling at the Jaguar Project to achieve a total JORC MRE of 109Mt at 0.87% Ni for 949kt of contained Ni. A new discovery was made at Twister Prospect and deeper drill results indicate future resource growth and underground development. In June, CTM acquired the offtake rights of Vale in exchange for an increased net operating royalty over the Project. CTM raised $47m in July to fund completion of the Jaguar Project DFS, expected in Q1 2024.
Mallina (DEG)	The Mallina Gold Project was at the Prefeasibility Study stage as of September 2022 with a MRE of 251Mt at 1.32g/t Au for 10.6Moz.	Progress in the last 12 months included drilling at Hemi and the Mallina Region. In June this resulted in an updated MRE of 278Mt at 1.3g/t Au for 11.7Moz for the Mallina Gold Project. In September 2023 DEG reported the Hemi DFS which set out a 12-year mine plan with an average annual production of 530Koz/pa. Reported pre-production capex is A$1.35B to deliver a A$2.9B post tax $NPV_{5\%}$ (A$2700 gold price). Pending approvals, first production is scheduled for SQ 2026. DEG raised $300M in October to continue advancing the Project.

Project	Status October 2022	Progress to Date
2022 Best Undeveloped Projects (continued)		
Goulamina (LLL)	Early works including site access roads, a pioneer camp and perimeter fencing began in Q3 of 2022, with major works reported to begin in Q1 of 2023. At the end of the SQ 30% of engineering was complete and 43% of tender packages had been issued to vendors. The project was scheduled for commissioning and start up in the first half of CY2024.	In May 2023, Leo executed a $106m strategic placement and cooperation agreement with Ganfeng Lithium (9.9% interest) to ensure Leo was fully-funded for its share of Goulamina Stage 1 development. In June 2023, Leo reported a MRE update for Goulamina of 211Mt at 1.37% Li_2O. Development of Goulamina is now well underway. In September 2023, the Mali Government suspended Goulamina DSO operations and Equity Investment Agreement execution with Ganfeng. Leo entered into a trading halt on 15 September 2023 and is now in suspension pending an announcement related to correspondence from the Mali Government.
Kathleen Valley (LTR)	Final Investment Decision was approved in June 2022. Liontown had required agreements and permits in place to commence development. It signed a Native Title Agreement with the Tjwarl native title holders in November 2021, and received approval for its Mining Proposal from the Western Australian Government.	Development of Kathleen Valley is now more than 50% complete with production expected to commence mid-2024. Liontown received a revised $3.00 per share NBIO via scheme of arrangement from Albemarle in September 2023. In October 2023, Albemarle advised it has withdrawn its NBIO. Liontown subsequently reported the execution of a $760m debt financing package and fully underwritten $376m placement (plus $45m SPP) to fund Kathleen Valley to first production.
Rook I (NXG)	Feasibility Study for the development of the Arrow Resource within the Rook I Project reported in February 2021. In July 2022, the Canadian Nuclear Safety Commission approved a draft EIS submitted by NXG for technical review. NXG advancing on CNSC Uranium Mine and Mill Licence Applications with submission following finalisation of Environmental Assessment.	NXG entered into binding term sheets with Queen's Road Capital Investment and Washington H Soul Pattinson for convertible debentures valued at US$110M. Proceeds of the offering will be used to fund ongoing Rook I development and exploration activities. Further funds are also expected to be provided by NXG's C$250M At-The-Market program which will remain active until January 29, 2025. Provincial level approval has been received. Federal level approvals are anticipated in 1H 2024.
Wingellina (NC1)	The Wingellina Project was at the Feasibility Study as of 2008 (completed to today's PFS standards). EPA approvals received in 2016 (five-year extension requested in 2021).	The Wingellina PFS was reported in December 2022 which set out a 42-year mine plan with an average annual production of 35ktpa. Reported pre-production capex is A$2.9b to deliver a base case A$3.3b post tax $NPV_{8\%}$ (US$21,472/t assumed Ni price). NiCo reported a $7.3m underwritten pro-rata NREO in September 2023 to further advance the Central Musgrave Project toward the completion of a DFS (commencement scheduled for early 2024).
Nyanzaga (ORR)	The Nyanzaga Gold Project was at the DFS stage as of August 2022. The DFS preliminary project timeline reported construction beginning in mid-2023 and first production for mid-2025.	On 6 August 2023, OreCorp reported the signing of a binding scheme implementation deed whereby Silvercorp Metals Inc. will acquire all fully-paid ordinary shares of OreCorp for A$0.15 in cash and 0.0967 of a Silvercorp common share, representing an implied equity value of A$0.60 per OreCorp share (based on 20-day VWAP on 3 August 2023). The offer implied a 41.7% premium to the 20-day OreCorp VWAP and a 31.5% premium to OreCorp's closing price (4 August 2023). A vote on the proposed scheme is planned for the 8th of December

Project	Status October 2022	Progress to Date
2022 Best Undeveloped Projects (continued)		
Ngualla (PEK)	The Project's Special Mining Lease application was approved by the Tanzanian Cabinet in July 2021, whilst Framework Agreement negotiations remained well advanced.	In October 2022, Peak and Shenghe Resources signed a non-binding MOU covering concentrate offtake and strategic cooperation to develop Ngualla (executed and binding in August 2023). Peak also reported the Ngualla BFS which set out a 24-year mine plan with an average annual concentrate production of 16.2ktpa TREO. Reported pre-production capex is A$509m to deliver a $2.4b peak post-tax $NPV_{8\%}$ (assumed US$232/kg NdPr price). In April 2023, the binding framework agreement was executed with the Government of Tanzania, and in April, a special mining licence was granted for Ngualla.
Block 14 (Meyas Sand) (PRU)	Perseus acquired Block 14 from Orca Gold at the point of development in early 2022. Perseus reported it was infill drilling the resource and completing front end engineering designs to cap off the feasibility studies conducted by Orca and Lycopodium in 2020. Block 14 was fully permitted by the Sudanese Government.	On 7 June 2023, following an escalation of armed conflict around Khartoum between the Sudanese Armed Forces and the Rapid Support Force, Perseus reported it withdrew most of its employees from Meyas Sand, pending a resolution of the conflict. Meyas Sand FID was consequently deferred from 2H 2023 "for the foreseeable future".
Kasiya (SVM)	Kasiya was at the expanded Scoping Study stage as of June 2022.	In January 2023, Sovereign reported significant resource infill drilling results from Kasiya ahead of an April MRE update to 1.8Bt @ 1.0% rutile and 1.4% graphite (+80% in Indicated category). In July 2023, Sovereign reported a $40.4m placement to Rio Tinto (15% strategic interest) with proceeds to be used to advance Kasiya. Under the agreement, Rio Tinto will provide assistance and advice on the graphite co-product. On 28 September, the Kasiya PFS was reported and sets out a 25-year mine life with an average annual rutile production of 222ktpa and graphite of 244ktpa. Reported capital costs to first production (stage 1) is US$597m to deliver a US$1.6b post-tax $NPV_{8\%}$ or a US$1.2b post tax $NPV_{10\%}$ (assumed rutile and graphite prices of US$1,484/t and US$1,290/t, respectively).
Kiaka (WAF)	WAF acquired Kiaka in late 2021 as a ready to go proposal 45km from Sanbrado. The Company re-cut the existing feasibility study in August 2022.	In June 2023, WAF reported that Kiaka development was fully funded via a US$265m syndicated corporate loan facility, with first drawdown scheduled to occur in Q4 2023, with Kiaka construction funded from cashflow in the interim. First pour is scheduled for 2H 2025.

Source: Company announcements, Argonaut

Project	Status October 2022	Progress to Date
2022 Special Mentions		
Lake Mackay (AMN)	Awarded Major Project Status by the Federal Government in May 2020. The DFS was completed in July 2020. In November 2021 Front End Engineering Design ("FEED") delivered an 84% renewables penetration rate. Binding Offtakes for 315ktpa SOP signed over the period May 2021 to April 2022.	Limited progress other than ongoing FEED work and the EIA approvals process. Difficulties at other WA-based SOP from brine projects have negatively impacted sentiment towards the sector and AMN's share price to the point where project funding is a major hurdle. The Company recently attempted, unsuccessfully, to buy Kalium Lakes off the Receivers. It recently raised $3.2M, part of which will be applied towards exploration for other commodities across its tenure. Potash progress will be difficult from here and it falls off our list.
Katanning (AUC)	The Katanning Gold Project was at the PFS Stage as of August 2022, with a DFS scheduled for late Q4 2023. Katanning had a MRE 56Mt @ 1.21 g/t Au for 2.16Mozs.	In May 2023 AUC released a scoping study proposing an increased mill size from a 3Mtpa to 5Mtpa plant size. Drilling within the last 12-months also resulted in an increased MRE update for the Katanning Gold Project to 3.04Moz. In September 2023 AUC announced the acquisition of two freehold properties that cover the proposed mining and infrastructure areas for the KGP project. AUC is completing the KGP DFS which is targeted for completion in early 2024.
Pickle Crow (AUT)	The Pickle Crow Gold Project was at the resource definition stage with a MRE of 8.9Mt at 7.8 g/t Au for 2.23Moz.	Exploration agreement signed with the Mishkeegogamang Ojibway First Nation in November 2022. CY22 drilling including significant drilling results released at the Tyson discovery in November 2022 and January 2023 contributed to a MRE update in May 2023 to 11.9Mt at 7.2g/t Au for 2.8Moz (+24% and all inferred). $9m placement reported in February to fast-track seasonal exploration work focused on targeting new discoveries at the Project as well as to continue to step out.
Maniry (BEM / EVG)	The Maniry Graphite Project was at the DFS stage as of November 2022.	BlackEarth Minerals NL was renamed to Evion Group NL in December 2022. In December 2022, Evion signed a non-binding offtake agreement with Urbix Inc. for 15ktpa of graphite (~40% of Maniry's forecast production).
Gonneville (Julimar) (CHN)	Gonneville, of the Julimar Nickel-Copper-PGE Project had a MRE of 350Mt at 0.77 g/t Pd (8.6Moz), 0.16 g/t Pt (1.8Moz), 0.16% Ni (560kt), 0.1% Cu (360kt). A Scoping Study was underway.	An updated MRE was released in March 2023 for 560Mt @ 0.88g/t Pd+Pt+Au (3E), 0.16% Ni, 0.09% Cu, 0.015% Co (~0.54% NiEq or ~1.7g/t PdEq); containing 16Moz 3E, 860kt Ni, 520kt Cu and 83kt Co (~3.0Mt NiEq or ~30Moz PdEq). In May, CHN reported a $70m placement and $10m SPP to ensure the Company is funded for ~24 months of planned exploration and pre-development activities including Julimar. A Scoping Study was released in August.
Chilalo (EV1)	The Chilalo Graphite Project was DFS stage as of early 2020 with a binding offtake agreement in place with Yichang Xincheng Graphite Co Ltd to supply 30ktpa of flake graphite concentrate for the first 3 years of production.	DFS reported in March 2023 set out a 17-year mine life with an average annual graphite concentrate production of 52ktpa. Reported pre-production capex of US$120m to deliver a post-tax $NPV_{8\%}$ of US$338M. Framework agreement signed with Government of Tanzania in April 2023 related to ownership, development and management of Chilalo. Strategic collaboration announced with BTR New Material Group in August 2023. Key terms include a 9.9% equity investment into EV1, a downstream battery anode collaboration and a binding offtake agreement for 100% of Chilalo fine flake graphite. In October, EV1 reported a $4.6m placement with uses of funds including Chilalo optimisation.

Project	Status October 2022	Progress to Date
2022 Special Mentions (continued)		
Manna (GL1)	The Manna Project was at the resource development stage, with a maiden MRE of 9.9Mt at 1.14% Li_2O for 113kt of contained Li_2O. In October, GL1 acquired the remaining 20% interest in the Manna Project from Breaker Resources NL for $60m and a 1.5% non-precious metals NSR royalty on the back of a $111m placement to fund the acquisition, exploration at Manna and Marble Bar, the Manna Feasibility Study, approvals and permitting, camp infrastructure and general working capital.	Progress in the last 12 months included the results from CY22 drilling programs which lead to an updated Manna MRE of 36Mt at 1.13% Li_2O. The Company reported the Manna Scoping Study which set out a 10-year mine plan with an average annual production of 221Ktpa (SC5.5). Reported pre-production capex is A$436 to deliver a A$2.8B pre tax $NPV_{8\%}$ (assumed US$2500 SC 5.5 price). GL1 reported high grade infill and extensional (adding ~500m of mineralised strike to the north-northeastern extension) drilling at Manna in October 2023.
Makuutu (IXR)	The Makuutu Rare Earths Project was at the Scoping Study stage as of April 2021. IXR had a 51% interest in Makuutu.	Ionic reported a stage one DFS in March 2023 which set out a 35-year mine plan with an average annual SC_2O_3 production of 15tpa. Reported pre-production capex of US$121m to deliver a stage one US$278m post-tax $NPV_{8\%}$ (assumed US$775/kg SC_2O_3 price). In April, on the back of the DFS and subsequent approval to progress construction of a technical facility and demonstration plant, Ionic moved to 60% ownership of the Ugandan vehicle that holds Makuutu.
Kambalda (LM8)	LM8's Kambalda nickel assts were at the resource development stage. In June 2022, LM8 reported an initial Baker MRE of 568kt at 2.8% Ni for 15.8kt of contained Ni. LM8 has undergoing a programme of 20m x 20m infill drilling to improve JORC categorisation.	23,800m of diamond and RC drilling was completed in FY23 at Kambalda. 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. Reported pre-production capex is A$18.6m to deliver a post-tax $NPV_{8\%}$ of A$121M (assumed US$24,000/t Ni price). Lunnon completed a $18m placement and $2.5m SPP in August 2023 to fund planned exploration and potential pre-development activities.
Corvette (PMT)	PMT's Corvette Lithium Project was at the resource development stage. The CV Lithium Trend, although discovered in 2017, had not been drilled tested until late 2021. At the CV5 prospect, had been intersected in holes over 2,200m of strike length.	In additional to exceptions drill results released through the year as part of its 2023 campaign, the largest lithium pegmatite resource in the Americas was reported for CV5 of 109.2Mt at 1.42% and 160ppm Ta_2O_5 based on 163 core holes totalling 56km. PMT also announced a C$50m flow-through financing and a C$109m investment and MOU with Albemarle to accelerate exploration and development activities at Corvette.
Bankan (PDI)	The Bankan Gold Project was at the resource development stage. 4.2Mozs at 1.6 g/t had been estimated across the two deposits (NE Bankan & Bankan Ck). Stakeholder engagement and environmental studies were reportedly progressing alongside exploration ahead of mining studies anticipated for 2024.	A $40m placement completed in May 2023 with use of funds including resource definition at Bankan as well as regional exploration drilling at priority targets along Bankan's structural gold corridor. August 2023 MRE update to 100.5Mt at 1.66g/t Au for 5.38Moz (29% increase in contained gold). The planned Scoping Study has been upgraded to a PFS, with the timeline pushed back to Q1 CY24. A mining permit is targeted for mid-2024.

Project	Status October 2022	Progress to Date
2022 Special Mentions (continued)		
MTMP (TMT)	The Murchison Technology Metals Project (MTMP) was at the Feasibility Study stage. TMT updated a 2019 feasibility study in August 2022 to conclude the MTMP can be brought on to supply about 5% of the current world market for V2O5 for a capital cost of $600M.	In September 2023, TMT and Australian Vanadium Ltd agreed to merge via a proposed scheme of arrangement under which AVL will acquire 100% of TMT's shares. TMT shareholders will receive 12.00 AVL shares for every TMT share held, implying an offer price of A$0.324 per share (based on last close) and a 9.8% premium to last close and a 26.7% premium to 30-day VWAP. The scheme was unanimously recommended by the TMT board. Project integration (MTMP and the Australian Vanadium Project) strategy and development concept is scheduled for completion 3-6 months post transaction completion.

Source: Company announcements, Argonaut

Market performance

The share prices and market capitalisations of stocks in the 2022 BUPs list increased 6% and 17% respectively over the 12 months to 31/10/23 (Table 5). In comparison the ASX Small Resources Index and the ASX 200 Index were down 4% and 1% respectively. Best performance on the BUPs list came from Bellevue (BGL), up 95%. Indicative of the volatility during the period at their peak prices the BUPs companies were up on average 82%.

Special Mentions companies' performances covered a wide range. By the end of the measurement period the average share price was down 22%. As with the stocks on the main list, they fared much better during the year; at their peak prices the average gain was 50%.

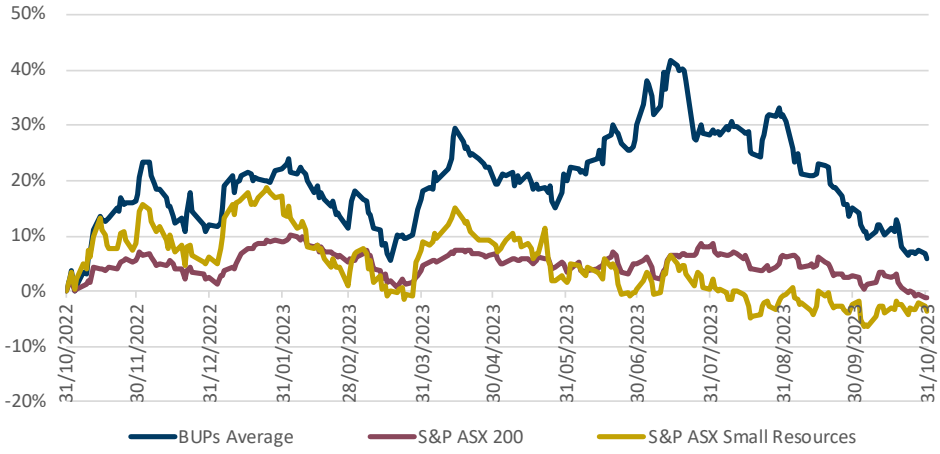
Table 5: 2022 BUPs & Special Mentions Performance

Company	Project	Ticker	Commodity	Price 31/10/23	Price Change	Peak Share Price	SOI Change	Mkt Cap Change
2022 Best Undeveloped Projects								
Bellevue	Bellevue	BGL	Gold	1.44	95%	1.69	10%	115%
Berkeley Energia	Salamanca	BKY	Uranium	0.34	29%	0.80	0%	29%
Centaurus Metals	Jaguar	CTM	Nickel	0.47	-50%	1.25	15%	-42%
De Grey	Mallina	DEG	Gold	1.19	13%	1.71	17%	32%
Leo Lithium	Goulamina	LLL	Lithium	0.51	-19%	1.29	0%	-19%
Liontown	Kathleen Valley	LTR	Lithium	1.61	-15%	3.20	9%	-6%
NexGen Energy	Rook I	NXG	Uranium	9.05	39%	10.40	2%	49%
Nico	Wingellina	NC1	Nickel	0.31	-34%	0.92	20%	-21%
OreCorp	Nyanzaga	ORR	Gold	0.46	44%	0.65	18%	69%
Peak Rare Earths	Ngualla	PEK	Rare Earths	0.41	-5%	0.74	28%	22%
Perseus	Block 14	PRU	Gold	1.70	-7%	2.51	0%	-6%
Sovereign Metals	Kasiya	SVM	Rutile	0.44	13%	0.61	20%	35%
West African	Kiaka	WAF	Gold	0.74	-29%	1.33	0%	-28%
Simple Average					*6%*			*17%*
2022 Special Mentions								
Agrimin	Lake Mackay	AMN	Potash	0.16	-56%	0.39	7%	-53%
Ausgold	Katanning	AUC	Gold	0.03	-34%	0.06	13%	-25%
Auteco	Pickle Crow	AUT	Gold	0.03	-31%	0.06	161%	80%
Evion	Maniry	EVG	Graphite	0.04	-59%	0.11	24%	-50%
Chalice	Julimar	CHN	PGE	1.79	-58%	8.20	3%	-57%
Evolution Energy	Chilalo	EV1	Graphite	0.16	-37%	0.34	12%	-30%
Global Lithium	Manna	GL1	Lithium	1.19	-51%	2.66	29%	-37%
Ionic Rare Earths	Makuutu	IXR	Rare Earths	0.02	-52%	0.04	2%	-51%
Lunnon Metals	Kambalda	LM8	Nickel	0.76	-7%	1.25	11%	3%
Patriot Battery Metals	Corvette	PMT	Lithium	1.15	98%	2.07	26%	140%
Predictive	Bankan	PDI	Gold	0.24	57%	0.23	21%	90%
Technology Metals	MTMP	TMT	Vanadium	0.23	-34%	0.39	21%	-20%
Simple Average					*-22%*			*-1%*

Price Change: For 12-month period to 31/10/2023; SOI: Shares on Issue. Source: Company data, FactSet, Argonaut

As shown in Figure 3 the indexed average share price performance of BUPs stocks was ahead of both the S&P/ASX 200 and the S&P/ASX Small Resources indices across the period. Despite some ups and downs, broadly the trend in share prices was upward to mid-July, at which point BUPs stocks were up on average over 40%. At this point both the S&P/ASX 200 and the S&P/ASX Small Resources were up less than 10%. Since then, the decline in BUPs companies' share prices has been sharp. A key early contributor to the drop was the Berkeley (BKY) share price, which fell over 40% on the back of the Spanish election result in late July.

Figure 3: Argonaut BUPs share price performance vs ASX indices

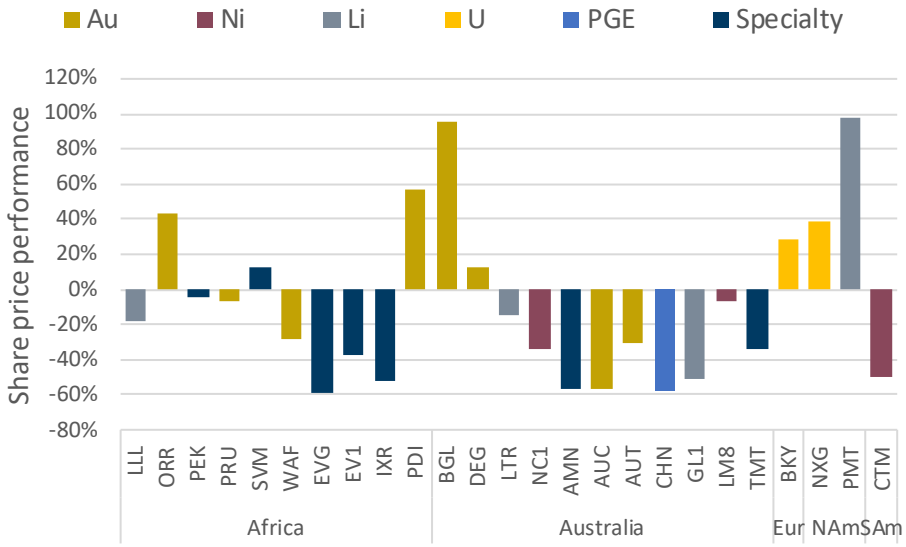


Source: FactSet, Argonaut

Other than the two uranium stocks included in last year's book, both of which were up, there was no other clear commodity winner across both the BUPs and Special Mentions lists. As shown in Figure 4 there were some good and bad performances across the eight golds, but all nickel stocks ended the measurement period in negative territory, as did most specialty metals (with graphite, rare earths, and potash doing particularly badly).

Regionally, there were winners and losers in both Africa and Australia. Predictive (PDI) was the best in Africa, closely followed by OreCorp (ORR) following the Silvercorp bid. Otherwise, African performance was relatively poor in part reflecting perceived sovereign risks. No such excuse for Australian stocks, which mainly finished in the red, other than a standout performance from Bellevue, and to a lesser degree De Grey (DEG). The two North American stocks NexGen (NXG) (uranium) and Patriot (PMT) (lithium) were the standout regional performers, both finishing in strongly positive territory.

Figure 4: 2022 BUPs performance by Commodity and Geography



Source: FactSet, Argonaut

Argonaut has been publishing its BUPs book for 10 years now, and the performance over the longer term has been strong relative to the broader market. Most years has been better for BUPs stocks than the S&P/ASX 200 and S&P/ASX Small Resources indices, with some strong years helping boost the average annual performance over the period to 15%.

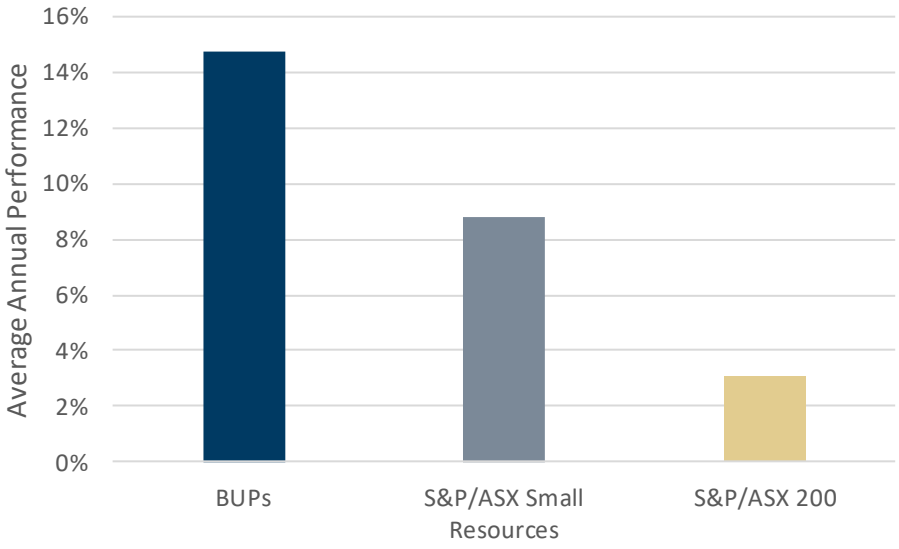
Figure 5: BUPs performance over time

Year	Annual Performance			BUPs
	BUPs	Small Res.	S&P 200	Mkt. Cap (%)
2014	10%	-20%	-5%	27%
2015	62%	48%	3%	101%
2016	7%	17%	12%	85%
2017	-19%	6%	-2%	-11%
2018	34%	-7%	14%	59%
2019	51%	1%	-11%	74%
2020	-1%	46%	24%	10%
2021	-17%	-8%	-6%	-5%
2022	6%	-4%	-1%	17%
Average	**15%**	**9%**	**3%**	**40%**

Source: FactSet, Argonaut

As shown in Figure 6 for the relevant measurement time periods over the last 9 years BUPs' simple average annual performance is 14.7%, compared to the S&P/ASX Small Resources annual performance of 8.8% and the S&P/ASX 200 annual return of 3.1%.

Figure 6: Average annual BUPs performances relative to indices, last 9 years



Source: FactSet, Argonaut

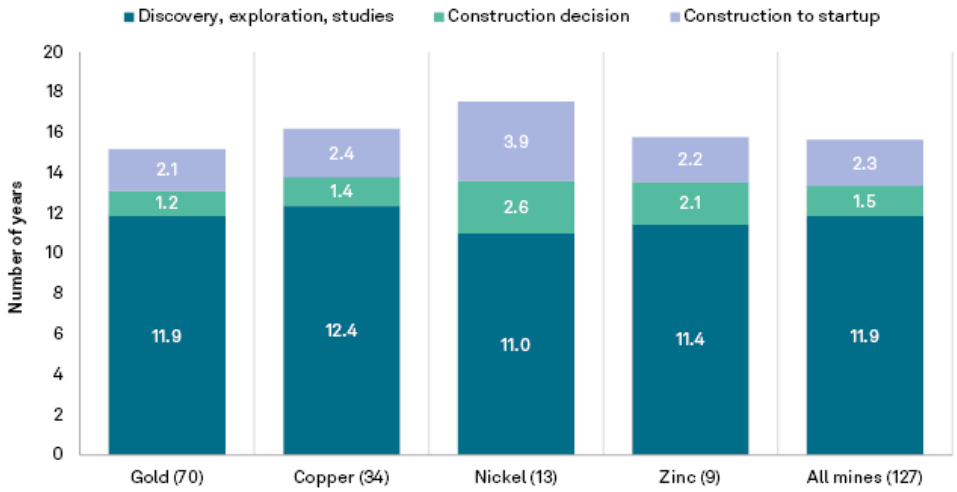
Stretched Timelines

Discovery to Production

The average lead time from discovery to production is over 15 years

The ongoing push for electrification is reliant on bringing in additional supply of critical metals. A potential flaw in this plan is the misconception of the time taken to bring new sources of production online. S&P Global's latest data suggests it takes an average lead time of 15.7 years from discovery to production for a new mine.

Figure 7: Years from discovery to production

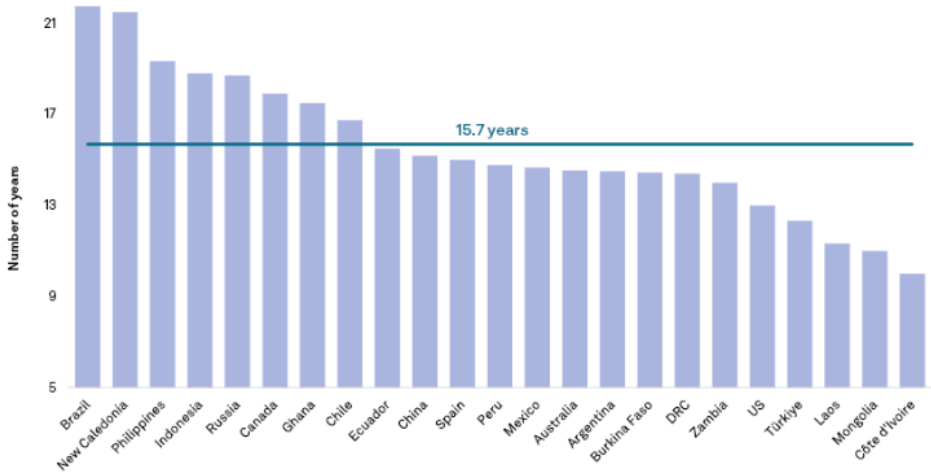


Source: S&P Global as of April 4, 2023

The bulk of this time is spent on exploration and studies

The exploration, discovery, and studies period accounts for the biggest contributor to the time taken to bring a new mine online. Delays during this phase can be attributed to various factors - lack of funding, permitting, poor exploration results, and metal prices. Unviable project economics is usually the stalling point for most projects which will always be a factor in mining project delays. Permitting delays, particularly in mineral and project rich countries like Canada and Brazil, will need to be addressed if the sector is expected to meet forecasted demand levels, particularly in the critical metals space.

Figure 8: Years from discovery to production, by country



Some countries with the most stretched timelines are also those that are mineral and project rich

Source: S&P Global as of April 4, 2023

Project Timelines - Schedule versus Reality

Even the most conservative schedules tend to get blown out by reality

At the development phase companies themselves are often overly optimistic on how long it will take to bring their projects into production. Geology, engineering, permitting, and financing can all bring unexpected delays that blow out even the most conservative schedules. For example, Argonaut's analysis of WA gold and base metal projects brought online in the last 3 years suggests most projects have been delayed 0.5-2 years relative to the projected timelines in scoping and pre-feasibility studies. New standalone development projects are the worst offenders, particularly where first-time developers are involved. Investors should view scoping and PFS development timelines presented by developers with some scepticism and as a rule of thumb add 12-months for a more realistic first production date for a standalone project.

Figure 9: Study timelines versus reality, Western Australia, last three years

Argonaut's analysis of recent gold and base metals projects in WA suggests they have faced delays of 6 months to 2 years

Source: Argonaut Research, S&P Global Market Intelligence

Red and Green Tape

Increased red and in particular green tape continue to hamper timelines and, in some cases, have derailed development

Globally, approvals process timelines are often being extended due to hurdles related to environment and social license to operate. In the latest EY Top 10 Business Risks survey, mining CEO's ranked ESG, climate change, and licence to operate in their top 4 business risks (geopolitics being the other). In WA the repercussions of the Juukan Gorge incident in 2020 have reverberated across the rest of the sector as mining companies have moved to ensure compliance. Rio Tinto recently noted that the approvals period in WA had lengthened by 12-18 months over the last five years.

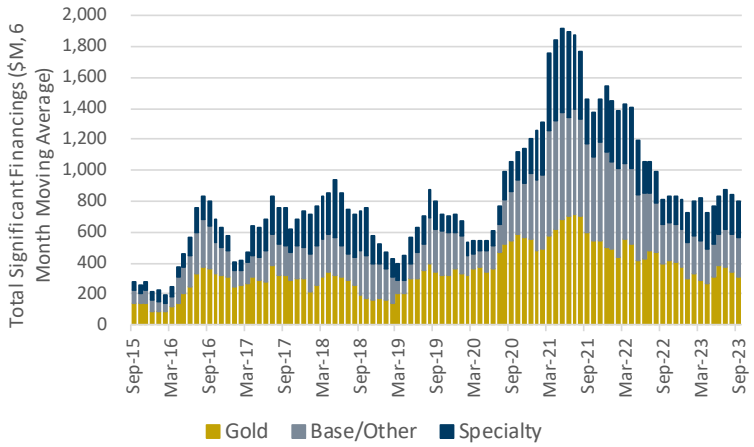
Requests by exploration and mining companies for heritage clearance surveys in WA were further stretched this year as the introduction of the new Aboriginal Cultural Heritage Act (2021) came into force on 1 July 2023. The rush of survey requests overwhelmed available resources, and although the Act ultimately was repealed by the WA government after an overwhelming public pushback, the sector remains inhibited by long turnaround times.

Capital Constraints

Following the dramatic increase from 2020, over the last couple of years there has been a declining trend in capital raised by junior and intermediate mining companies.

Figure 10: Significant global financings for junior and intermediate companies by broad commodity group, 6M moving average

The capital raising trend for junior miners has declined over the last two years

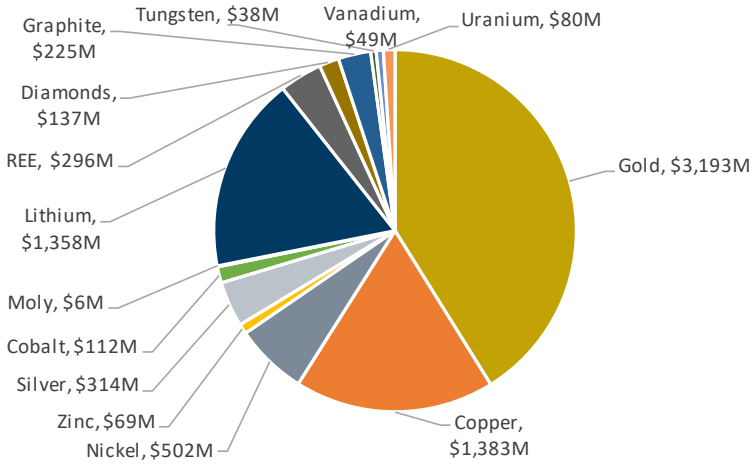


Source: S&P Global Market Intelligence

Gold dominates overall financing activity, although is declining as a percent of the total

Although down on prior years, gold continues to dominate capital raising activity. The precious metal has attracted 41% of all new capital inflows for the calendar year to date, with another 35% of financings targeting copper and lithium juniors.

Figure 11: Split in global financings for junior and intermediate companies Jan-Sep 2023

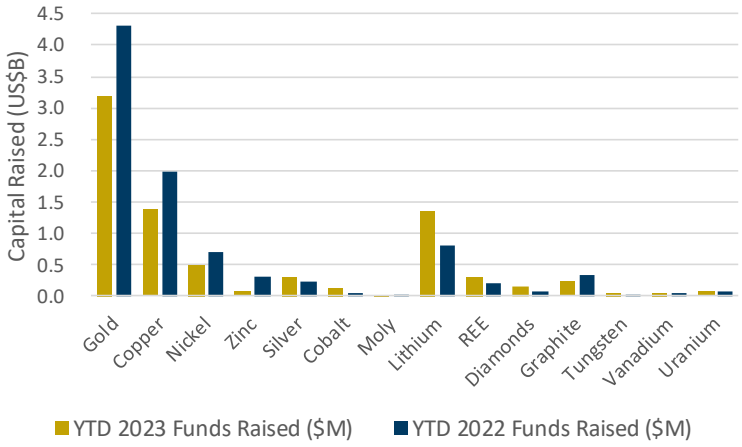


Source: S&P Global Market Intelligence

In the 2023 calendar year to date there has been increased capital raised for lithium, REE, and cobalt compared to the same period last year

Notably, recent capital raising trends have reflected the focus on decarbonisation. While much smaller in absolute terms, for 2023 to date compared to the same period in 2022 there has been increased capital raised for commodities like lithium, REE, and cobalt, while comparatively less capital has been allocated to the more traditional base metals (see Figure 12). We contend that an increasing proportion of exploration spend will need to be allocated to non-gold metals to meet decarbonisation goals.

Figure 12: Global financings for junior and intermediate miners, Jan-Sep 2023 compared to Jan-Sep 2022, by commodity

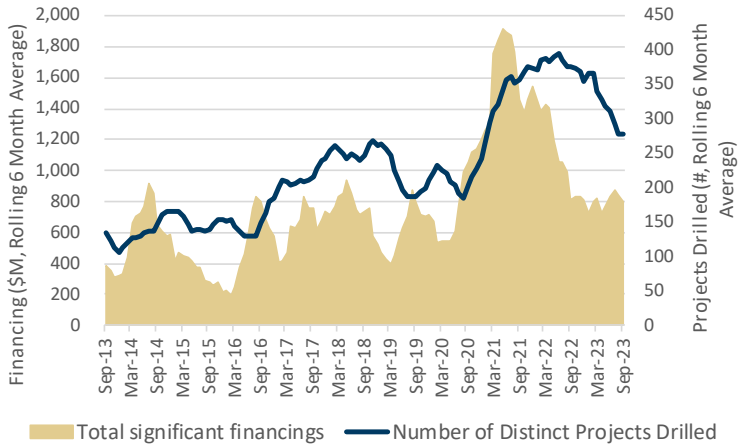


Source: S&P Global Market Intelligence

There is a clear lagged relationship between capital raised and exploration drilling activity, suggesting drilling is likely to remain at lower levels in the near-term

As expected, there is a clear, lagged relationship between capital raised and exploration drilling activity (both greenfield and brownfield). With current geopolitical, economic, and financial risks we do not see an environment conducive to an imminent rebound in capital inflows to junior miners. It suggests drilling activity is likely to remain at lower levels than the recent peak, slowing the rate at which new discoveries are made and worked up.

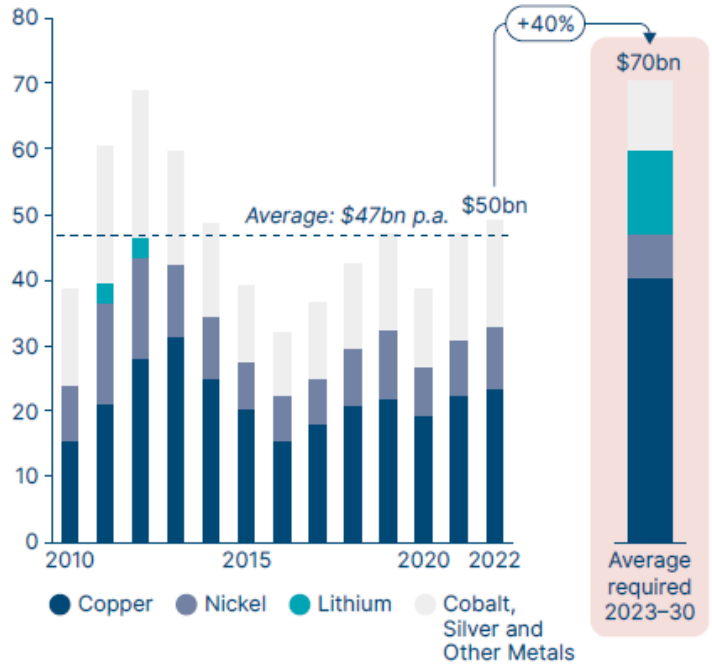
Figure 13: Total significant global financings for junior and intermediate companies compared to distinct projects drilled, 6M moving averages



Source: S&P Global Market Intelligence, Argonaut

Capital is also needed for studies and development. The Energy Transitions Commission (ETC) recently noted that spending by miners remains too low to support the growth in supply needed to support transition. The Commission estimates that annual mining capex on key minerals needs to increase by ~US$25B each year for the rest of this decade, or around 40% more than the average over the last 12 years, to meet requirements (see Figure 14).

Figure 14: Capital spending needed for energy transition (excl. iron ore and gold), US$B

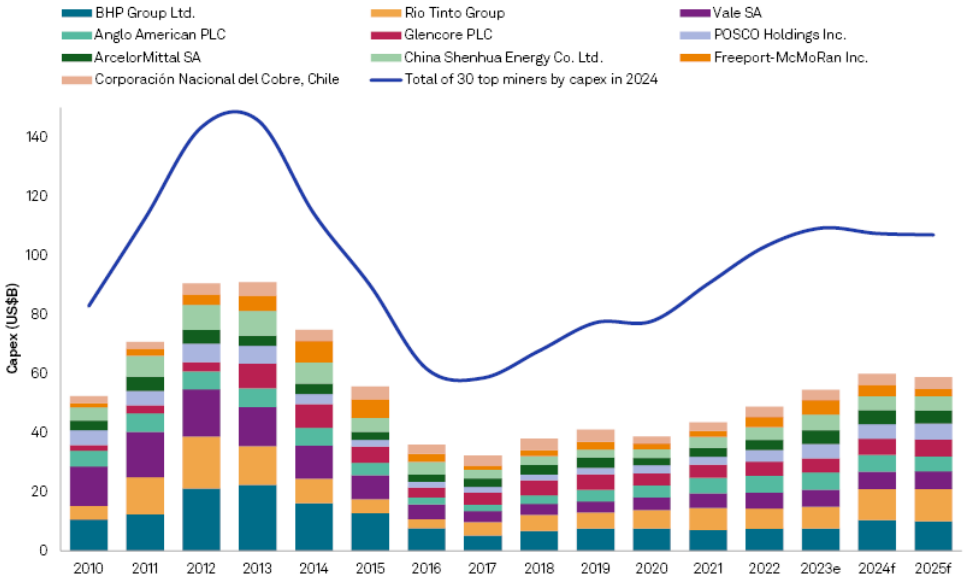


Source: ETC, Material and Resource Requirements for the Energy Transition. July 2023

The Energy Transitions Commission (ETC) notes that miners' capex is currently too low to support decarbonisation goals

Based on S&P data, the current plans of the highest spending global miners suggests that capex growth will fall well short of the ETC's suggested requirements (see Figure 15).

Figure 15: Capex by highest spending miners, 2010-2025



Source: S&P Global Market Intelligence, as at September 2023

Based on S&P data, the spending plans of major miners in the coming years is not ramping up at the pace required to support the ETC's suggested requirements

While there will always be willing funders for top tier projects and developments, in the current environment any uncertainty around issues like quality, payback, jurisdiction, market, approvals, transparency, current owners, or management is likely to result in funding challenges and therefore project delays.

Easier to Grow by M&A

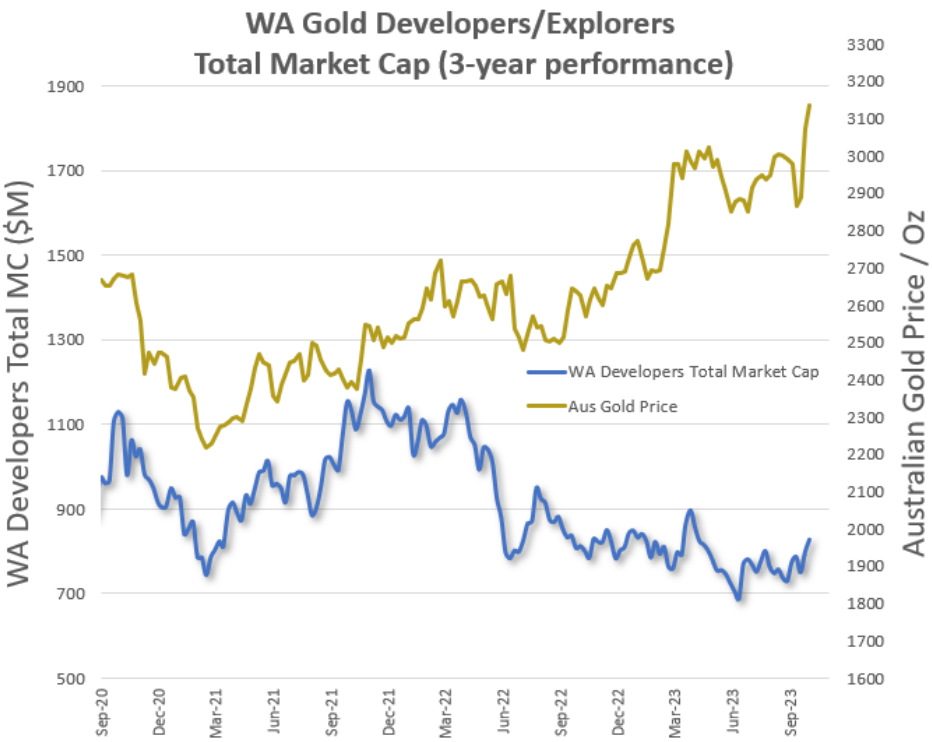
It is proving quicker and easier, and probably cheaper, to grow via acquisition than via the drill bit

In addition to capital constraints and red/green tape, recent years have been challenged by the availability and costs of people and equipment. It has proved quicker and easier, and probably cheaper, to grow resources by M&A than via the drill bit. Further, there is a growing recognition that matching the right ore sources with the right processing facilities via a hub and spoke model is more sensible than separate developments.

The latter point has come to the fore in WA's gold space in recent times. The market has been challenging for most gold explorers and developers despite a strong Australian dollar gold price which is currently near record highs. The divergence in gold price and developer valuations has presented a favourable scenario for producers looking for new undeveloped assets to build out their mine plans (see Figure 16).

Figure 16: 3-year Australian gold price performance against WA explorer/developer valuations

This has been demonstrated in the gold space in WA in recent times



Source: Argonaut Research, FactSet

But it still relies on a pipeline of exploration and development opportunities being worked up by juniors

For producers, buying a fully permitted project ready for development is the easy shortcut that avoids the long lead times of exploration. Whilst this tactic has been successful to date, it still relies on a market where explorers and developers are being funded to advance projects. Unless conditions improve, we see a scarcity of quality development projects in WA and elsewhere that may force producers to up their exploration spend to ensure an ongoing supply of development assets.

It's not just gold; the lithium space has become heated in recent months

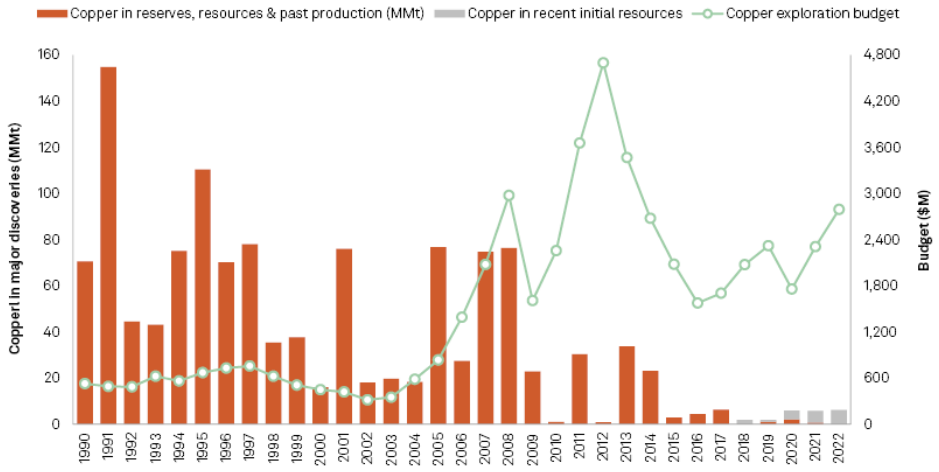
M&A has not only been evident amongst gold companies. The lithium space has become heated over the last few months as existing and new producers embark on a land grab. This was pre-empted and discussed in detail in Argonaut's recent research West Australian Lithium - Consolidating Positions, 14 September 2023.

M&A redistributes mining inventories to different owners but does not grow resources in aggregate

While consolidation via M&A boosts the acquirer's position, and potentially advances the pace at which the acquired inventory gets extracted, it does nothing for reserves and resources in aggregate. These still need to grow to support the sharply expanded future production necessary to meet increased global requirements. Copper is a case in point. S&P Global Market Intelligence analysis shows that 1,250M tonnes of copper has been discovered over the 32 years to 2022 but that only 4.1M tonnes have been discovered in the last 5 years (see Figure 17).

Figure 17: Copper discoveries and exploration budgets

New copper discoveries have fallen dramatically in recent years



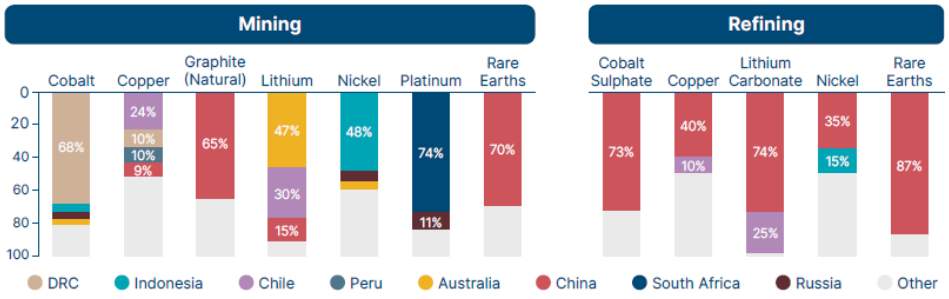
Source: S&P Global Market Intelligence, as at August 2023

Supply Chains and Risks

The current lack of funding and incentivisation to explore for new resources is going to exacerbate the potential for a future supply crunch across several metals, particularly those required for decarbonisation. Further, global resources need be considered in the context of a polarised world. Countries are paying close attention to supply chains given production and refining concentration risks, particularly for critical minerals.

Resources also need to be considered in terms of where they are located and processed

Figure 18: Share of global mining and refining production by country, 2022



Source: ETC, Material and Resource Requirements for the Energy Transition. July 2023

The US Inflation Reduction Act endeavours to address these supply chain risks

For example it has been estimated that the US demand for lithium, nickel, and cobalt combined will be 23x higher in 2035 than in 2021 and that copper demand will double. For the US this will necessitate an increased reliance on imports, despite the US Inflation Reduction Act (IRA) providing specific tax incentives to encourage building domestic capacity to support the energy transition.

There appears to be a growing realisation that the demand side under decarbonisation targets needs to be matched by supply side reality, especially in the light of a polarised world

The requirement that these imports are sourced from a Free Trade Agreement (FTA) country and not from a "foreign entity of concern" are likely to pose constraints. Reports that consideration is being given to support nickel laterite development (not carbon friendly) in Indonesia (not an FTA country) perhaps reflects the growing realisation that the demand side under lofty decarbonisation targets needs to be matched by supply side reality.

Country risks are heightened by west versus east influence. West Africa is a good example, with Russia reinforcing its ties to various countries following France's military withdrawal. China meanwhile has spent decades establishing footholds in countries across the world and locking up raw materials supply, many of which feature on all countries' critical minerals lists. Geopolitics is likely to play an increasing role in development funding and therefore product destination.

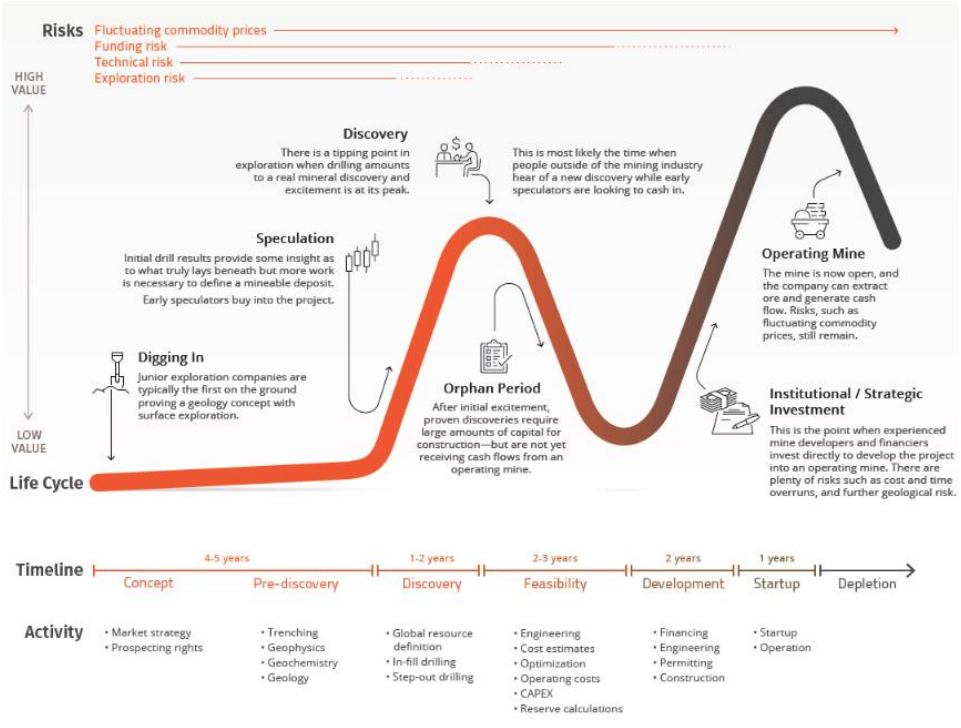
Supply issues mounting

The life cycle of a typical project is getting stretched at a time when metal demand requires it to contract

In summary, we see the current environment stretching the Lassonde Curve (which is a good visual demonstration of a mining project lifecycle as per Figure 19) for a variety of reasons. Capital constraints, a tangle of red and green tape, and geopolitical risks make it harder to move a project forward in a timely manner, encouraging growth by acquisition rather than development. The latter does nothing to grow supply in aggregate, in our view exacerbating what we increasingly see as a looming commodity supply crunch, particularly in the decarbonisation exposed space.

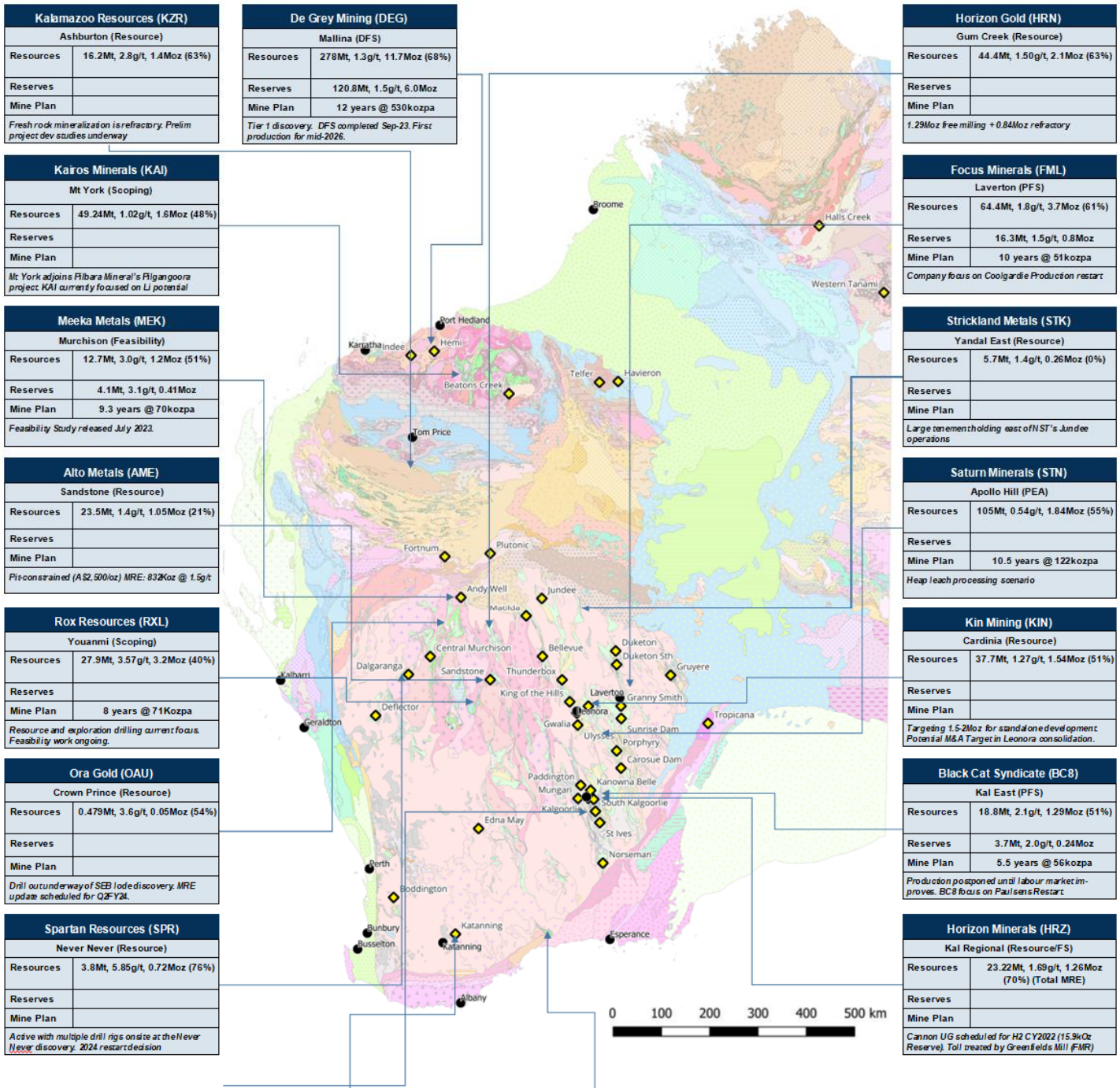
A lack of exploration activity is likely to lengthen time to discovery, but from there to development we see the Lassonde Curve looking more like an extended "U" than a "V" shape

Figure 19: The Lassonde Curve: The lifecycle of a mineral discovery



Source: Visual Capitalist

Figure 20: Select WA Gold Projects with Substantial Resources.



Kalamazoo Resources (KZR)	
Ashburton (Resource)	
Resources	16.2Mt, 2.8g/t, 1.4Moz (63%)
Reserves	
Mine Plan	
Fresh rock mineralization is refractory. Prelim project dev studies underway	

De Grey Mining (DEG)	
Mallina (DFS)	
Resources	278Mt, 1.3g/t, 11.7Moz (68%)
Reserves	120.8Mt, 1.5g/t, 6.0Moz
Mine Plan	12 years @ 530kozpa
Tier 1 discovery. DFS completed Sep-23. First production for mid-2026.	

Horizon Gold (HRN)	
Gum Creek (Resource)	
Resources	44.4Mt, 1.50g/t, 2.1Moz (63%)
Reserves	
Mine Plan	
1.29Moz free milling +0.84Moz refractory	

Kairos Minerals (KAI)	
Mt York (Scoping)	
Resources	49.24Mt, 1.02g/t, 1.6Moz (48%)
Reserves	
Mine Plan	
Mt York adjoins Pilbara Mineral's Pilgangoora project. KAI currently focused on Li potential	

Focus Minerals (FML)	
Laverton (PFS)	
Resources	64.4Mt, 1.8g/t, 3.7Moz (61%)
Reserves	16.3Mt, 1.5g/t, 0.8Moz
Mine Plan	10 years @ 51kozpa
Company focus on Coolgardie Production restart	

Meeka Metals (MEK)	
Murchison (Feasibility)	
Resources	12.7Mt, 3.0g/t, 1.2Moz (51%)
Reserves	4.1Mt, 3.1g/t, 0.41Moz
Mine Plan	9.3 years @ 70kozpa
Feasibility Study released July 2023.	

Strickland Metals (STK)	
Yandal East (Resource)	
Resources	5.7Mt, 1.4g/t, 0.26Moz (0%)
Reserves	
Mine Plan	
Large tenement holding east of NST's Jundee operations	

Alto Metals (AME)	
Sandstone (Resource)	
Resources	23.5Mt, 1.4g/t, 1.05Moz (21%)
Reserves	
Mine Plan	
Pit-constrained (A$2,500/oz) MRE: 832Koz @ 1.5g/t	

Saturn Minerals (STN)	
Apollo Hill (PEA)	
Resources	105Mt, 0.54g/t, 1.84Moz (55%)
Reserves	
Mine Plan	10.5 years @ 122kozpa
Heap leach processing scenario	

Rox Resources (RXL)	
Youanmi (Scoping)	
Resources	27.9Mt, 3.57g/t, 3.2Moz (40%)
Reserves	
Mine Plan	8 years @ 71Kozpa
Resource and exploration drilling current focus. Feasibility work ongoing.	

Kin Mining (KIN)	
Cardinia (Resource)	
Resources	37.7Mt, 1.27g/t, 1.54Moz (51%)
Reserves	
Mine Plan	
Targeting 1.5-2Moz for standalone development. Potential M&A Target in Leonora consolidation.	

Ora Gold (OAU)	
Crown Prince (Resource)	
Resources	0.479Mt, 3.6g/t, 0.05Moz (54%)
Reserves	
Mine Plan	
Drill out underway of SEB lode discovery. MRE update scheduled for Q2FY24.	

Black Cat Syndicate (BC8)	
Kal East (PFS)	
Resources	18.8Mt, 2.1g/t, 1.29Moz (51%)
Reserves	3.7Mt, 2.0g/t, 0.24Moz
Mine Plan	5.5 years @ 56kozpa
Production postponed until labour market improves. BC8 focus on Paulsens Restart	

Spartan Resources (SPR)	
Never Never (Resource)	
Resources	3.8Mt, 5.85g/t, 0.72Moz (76%)
Reserves	
Mine Plan	
Active with multiple drill rigs onsite at the Never Never discovery. 2024 restart decision	

Horizon Minerals (HRZ)	
Kal Regional (Resource/FS)	
Resources	23.22Mt, 1.69g/t, 1.26Moz (70%) (Total MRE)
Reserves	
Mine Plan	
Cannon UG scheduled for H2 CY2022 (15.9kOz Reserve). Toll treated by Greenfields Mill (FMR)	

Astral Resources (AAR)	
Mandilla (Scoping)	
Resources	37Mt, 1.1g/t, 1.26Moz (56%)
Reserves	
Mine Plan	7.8 years @ 100kozpa
Scoping study reported Sep-23.	

Ausgold (AUC)	
Katanning (PFS)	
Resources	88.9Mt, 1.06g/t, 3.0Moz (79%)
Reserves	32Mt, 1.25g/t, 1.3Moz
Mine Plan	9.7 years @ 136kozpa
DFS incorporating larger 5 Mtpa mill targeted for 2023Q4	

Medallion Metals (MM8)	
Ravensthorpe (PFS)	
Resources	19.5Mt, 2.1g/t, 1.3Moz (60%)
Reserves	4.08Mt, 2.1g/t, 0.27Moz
Mine Plan	9 years @ 92koz AuEq
KGP PFS reported Oct-23.	

Legend (ASX Code)	
Project (Project Status)	
Resources	tonnes, grade, ounces (% measured + indicated)
Reserves	tonnes, grade, ounces
Mine Plan	Most recent study, years @ average annual gold production
Argonaut Comment	

Important Disclosures

Ausgold Ltd: Argonaut acted as Lead Manager to the Placement to raise $12M in April 2023 and received fees commensurate with this service. Argonaut holds or controls 30M options exercisable at $0.06 expiring 31 March 2025.

De Grey Mining Ltd: Argonaut Securities Pty Limited is acting as Joint Lead Manager and Joint Bookrunner, and Argonaut PCF Limited is acting as Joint Underwriter to the $300M Placement announced on 28 September 2023 and will receive fees commensurate with these services.

Kin Mining Ltd: Argonaut acted as Joint Lead Manager to the $20.4M capital raising announced in August 2022 and received fees commensurate with this service.

Rox Resources Ltd: Argonaut holds or controls 1M RXL Options exercisable at $0.72 on or before 4 March 2026

Ora Gold Ltd: Argonaut Securities Pty Ltd acted as Joint Lead Manager to the Placement to raise up to $5M in November 2023 and received fees commensurate with these services. Argonaut holds 15M OAU shares.

Kairos Minerals: Argonaut holds or controls 60,000 KAI Options exercisable at $0.08 on or before 29 October 2023

Source: Argonaut, Company Filings, Geological Survey of Western Australia

NOT COVERED

Current Price $0.40

Ticker:	**A11**
Sector:	**Metals & Mining**
Shares on Issue (m):	**612.2**
Market Cap ($m):	**244.9**
Cash Est. ($m)	10.6
Debt Est. ($m)	0.0
Enterprise Value ($m):	**234.3**
52 wk High/Low:	**$0.94** **$0.35**
12m Av Daily Vol (m):	**0.4**

Projects	**Stage**
Ewoyaa	Definitive Feasibility Study

Mineral Resource	**Mt**	**Li_2O (%)**	**Li_2O (kt)**
Ewoyaa	35.3	1.25	441.3

Ore Reserve	**Mt**	**Li_2O (%)**	**Li_2O (kt)**
Ewoyaa	25.6	1.22	312.3

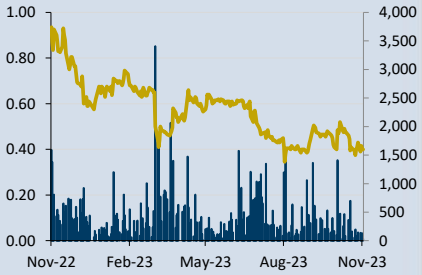
Cashflows	**2022**	**2023**
Operating Cashflow	-5.4	-7.0
Investing Cashflow	-12.7	-4.5
Financing Cashflow	23.5	2.9
Cash Balance	23.9	15.3

Directors & Management:

Neil Herbert	Executive Chairman
Keith Muller	CEO
Patrick Brindle	Non-Executive Director
Kieran Daly	Non-Executive Director
Christelle Van der Merwe	Non-Executive Director
Amanda Harsas	Finance Director & Co. Sec.

Substantial Shareholders:	**%**
Aurora Nominees	25.5%
Piedmont Lithium	9.3%

Share Price Graph and Trading Volumes



Atlantic Lithium (A11)

Ewoyaa

Analyst: Hayden Bairstow

Quick Read

The Ewoyaa lithium project, located in Ghana, is a significant lithium spodumene discovery. If brought into production, Ewoyaa will be Ghana'a first lithium-producing mine. In June 2023, A11 reported a DFS for Ewoyaa which set out a 12-year mine plan with steady state production of 365ktpa. A11 has strategically partnered with Piedmont Lithium (50% project interest) as well as the Minerals Income Investment Fund of Ghana (6% project interest and 3.1% corporate interest). A11 has targeted Ewoyaa first concentrate for 2025 and was granted a mining lease in October 2023. The project is subject to a royalty rate of 10% with Ghana taking a 13% free carried interest.

Overview

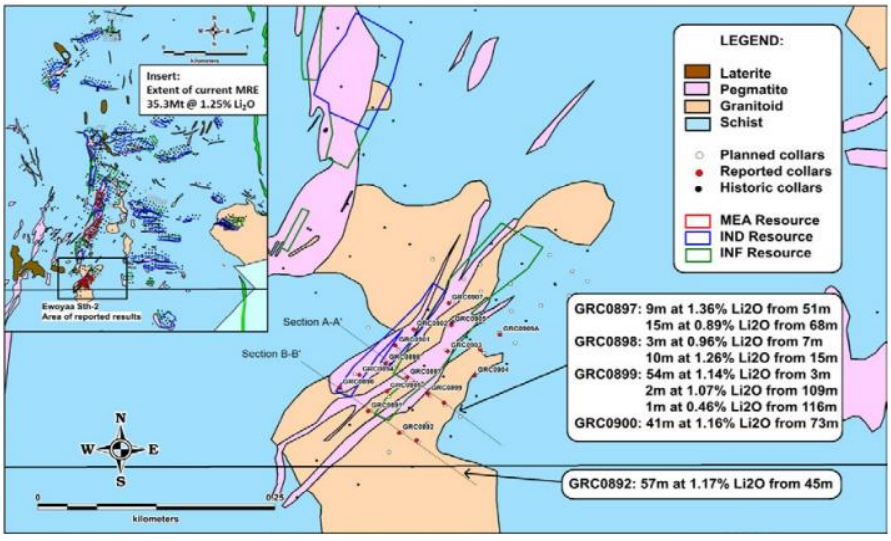
Location & Tenure

The Ewoyaa lithium project is located immediately north of Saltpond in the Central Region of Ghana and falls within the Mfantseman Municipality where Saltpond is the district capital. The site is approximately 100km southwest of the capital of Accra. Site access is from the sealed N1 Accra-Cape Coast Takoradi highway which runs along the southern coastal boundary of the Project and links Accra and the deep-sea port of Takoradi, approximately 110km west of the site. A11's tenure position covers a total area of approximately 1,334km^2, within tenements located in both Ghana and Côte d'Ivoire (560km^2 and 774km^2 respectively).

Geology & Resources

The project currently hosts a Mineral Resources Estimate totalling 35.3Mt at 1.25 Li_2O and Ore Reserves totalling 25.6Mt at 1.22% Li_2O.

Figure 21: Location of reported assay results with highlight drill intersections.



Source: A11

The regional geology of western Ghana is characterised by a thick sequence of steeply dipping metasediments, alternating with metavolcanic units of Proterozoic age. The sequences belong to the Birimian Supergroup and extend for approximately 200km along strike in several parallel north-easterly trending volcano-plutonic belts and volcanosedimentary basins, of which the Kibi-Winneba Belt and Cape Coast Basin extend through the region in the Company's Mankessim licence area.

Ewoyaa pegmatites are emplaced primarily within a large granitoid

The mineralised pegmatite intrusions generally occur as sub-vertical bodies with two dominant trends: either striking north-northeast (Ewoyaa Main) and dipping sub-vertically to moderately southeast to east-southeast, or striking west-northwest to east-west (Abonko, Kaampakrom, Anokyi, Okwesi, Grasscutter and Ewoyaa Northeast) dipping sub-vertically to moderately northeast or north.

The mineralisation at Ewoyaa has been confirmed to be associated with spodumene-bearing pegmatite as the main lithium bearing mineral. No petalite or lepidolite has been observed in any of the resource RC and diamond core drill logging.

Metallurgy

A feature of the testwork completed as part of the 2023 DFS has been the consistently good quality of lithium concentrates produced via DMS only testing. Results show the iron content of the concentrates as being consistently below 1% and total alkalis ($Na_2O + K_2O$) to be less than 3%. Coupled with the coarse size of the concentrates, these are desirable properties for potential offtakers. A11 is assessing the addition of a flotation circuit to optimise processing.

Processing

DFS testwork supports a flowsheet that utilises conventional DMS processing to recover a spodumene to a saleable concentrate.

Good results from DMS with potential to optimise using flotation

The simple mineralogy at the project enables a simple flowsheet comprising an integrated 3-stage crushing facility through conventional DMS processing, producing SC6 and SC5.5 concentrate (approx. 50:50 ratio) at 10mm top size crush. Initial processing of approximately 450kt of ore is planned to be carried out over the first nine months, starting Q2 2025, in an early production processing plant fed from Ewoyaa South 2 pit, prior to processing through the main 2.7Mtpa processing facility from Q1 2026 for 11 years.

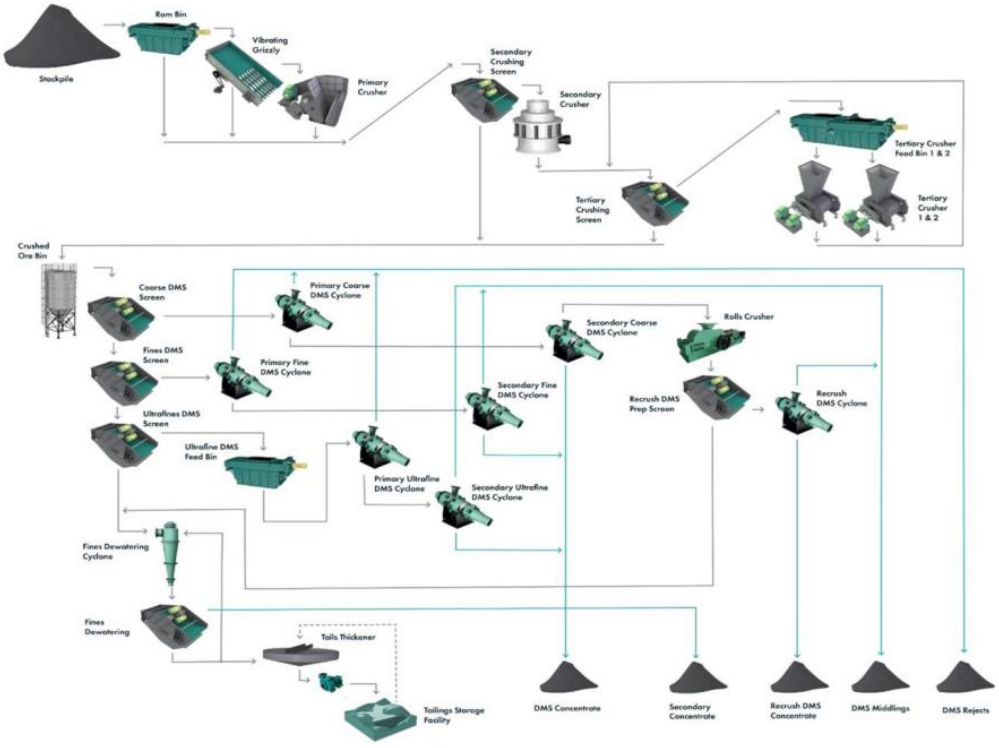
Figure 22: Proposed processing plant and infrastructure viewed from the west.

Source: A11

There also is the potential to upgrade the fines tail product via flotation into additional spodumene concentrate.

A gravity centric flowsheet

Figure 23: Overall simplified process flowsheet.



Source: A11

Definitive Feasibility Study Outcomes

A11 reported a DFS for the Ewoyaa lithium project in June 2023, with mining to be undertaken by conventional open pit methods of drill and blast (strip ratio of 12.3:1), followed by load and haul.

Superior economic outcomes using conservative product pricing

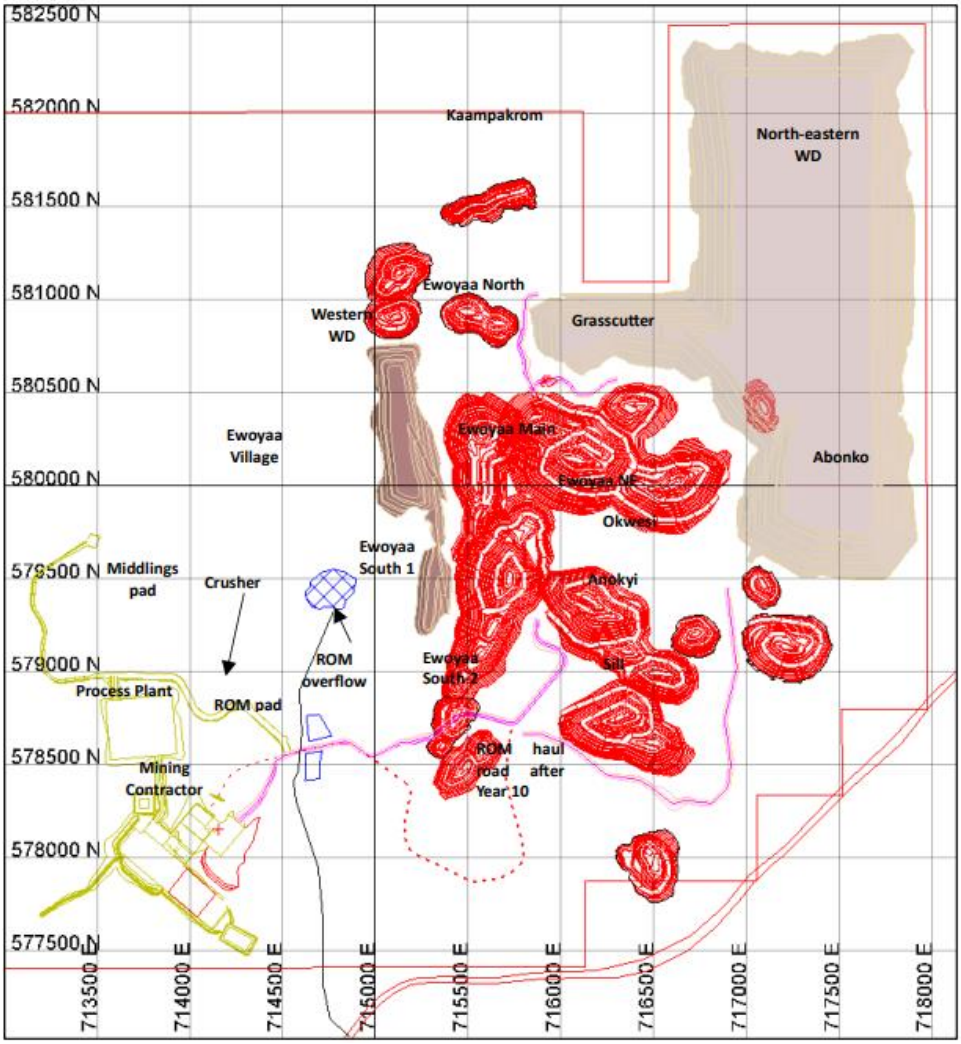
The DFS sets out a 12-year mine plan with steady state production of 365ktpa of spodumene concentrate (Li_2O average head grade of 1.22%) to produce total revenue of US$6,566m. Reported pre-production capex is US$185m to deliver a US$1,498m post-tax $NPV_{8\%}$, 105% post-tax IRR and 19-month payback period (based on assumed SC6 sell price of US$1,695/t and SC5.5 sell price of US$1,478/t).

Figure 24: Key DFS outcomes.

365ktpa Steady state production	**US$1.5bn** NPV_8	**12-year** Life of Mine	**19-month** Payback period
US$6.6bn LOM revenues	**4.7Mt** Secondary Product (Low-grade Li_2O)	**US$185m** Capital Cost	**105%** IRR

Source: A11

Figure 25: Proposed Ewoyaa lithium project pit layout.



Source: A11

Strategic Partnerships

In August 2023, A11 received the commitment its partner, Piedmont Lithium, to sole fund the first US$70m, and 50% of any additional costs thereafter, of the total US$185m development expenditure indicated in the DFS for the project. In consideration, Piedmont will earn a further 27.5% interest in the company's Ghana portfolio (total interest of 50%).

Strategic partnership provides funding, reducing equity dilution

A11 has also received planned investment totalling US$32.9m by the Minerals Income Investment Fund of Ghana and its Ghanaian subsidiaries (MIIF) to expedite the development of the project. In consideration, MIIF will acquire a 6% contributing interest in the company's Ghana portfolio as well as a 3.05% corporate interest.

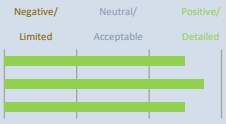
A competitive offtake partnering process is underway to secure project funding for a portion of the remaining 50% available feedstock from Ewoyaa.

SPEC BUY

Current Price	$0.53
Valuation	$1.60

Ticker:	**CTM**
Sector:	**Metals & Mining**

ESG Ratings:



Key Financials

Shares on Issue (m):	**492.9**
Market Cap ($m):	**258.8**
Cash Est. ($m)	44.7
Debt Est. ($m)	0.0
Enterprise Value ($m):	**214.1**
52 wk High/Low:	**$1.22** **$0.46**
12m Av Daily Vol (m):	**0.7**

Projects	**Stage**
Jaguar Nickel Project	Scoping Study
Jambreiro Iron Ore Project	PFS

Mineral Resource	**Mt**	**Ni (%)**	**Ni (kt)**
Jaguar Nickel Project	109.2	0.87%	948.9

Cashflows	**2022**	**2023**
Operating Cashflow	-15.2	-40.0
Investing Cashflow	-5.8	-6.9
Financing Cashflow	5.3	72.5
Cash Balance	8.3	34.0

Directors:

Didier Murcia, AM	Chairman
Darren Gordon	Managing Director & CEO
Bruno Scarpelli	Executive Director
Dr Natalia Streltsova	Non-Executive Director
Mark Hancock	Non-Executive Director
Chris Banasik	Non-Executive Director

Substantial Shareholders:	**%**
McCusker Holdings	14%
Regal Funds Management	7%
Sprott Inc.	6%
Harmanis Holdings	5%

Share Price Graph and Trading Volumes

Centaurus Metals (CTM)

Jaguar

Analyst: George Ross

Quick Read

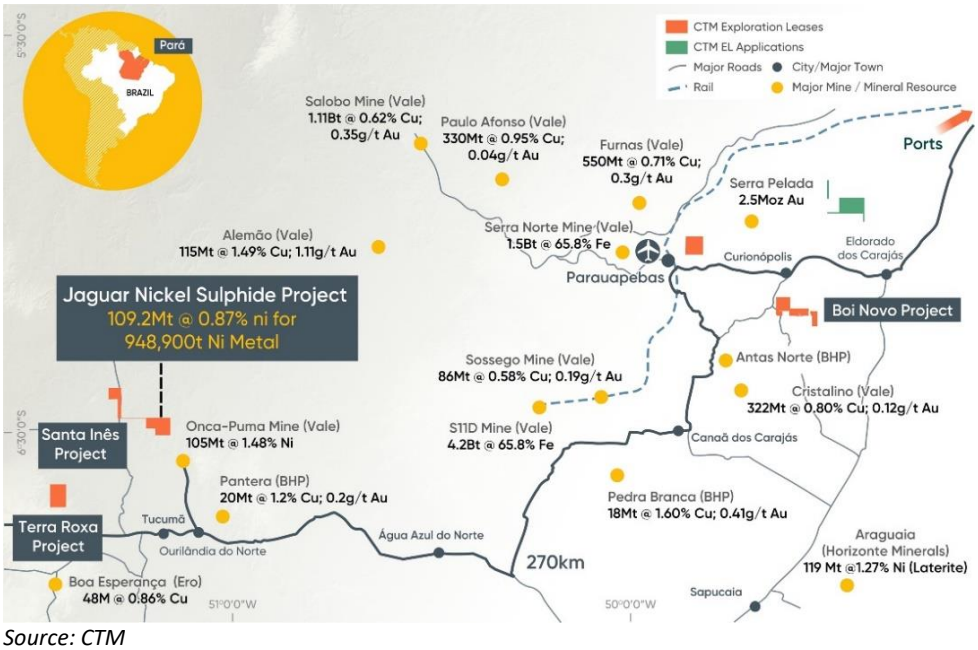
CTM's Jaguar nickel sulphide project Definitive Feasibility Study is scheduled for completion during the December quarter of 2023. Jaguar remains one of the world's best undeveloped nickel sulphide projects. In the near term we expect positive news flow surrounding the DFS and a potential development partnership.

Overview

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 with alternative access provided past Vale's large US$2.8B Onca Puma mine and ferronickel refinery.

Figure 26: Location of Jaguar Nickel Sulphide Project.



Source: CTM

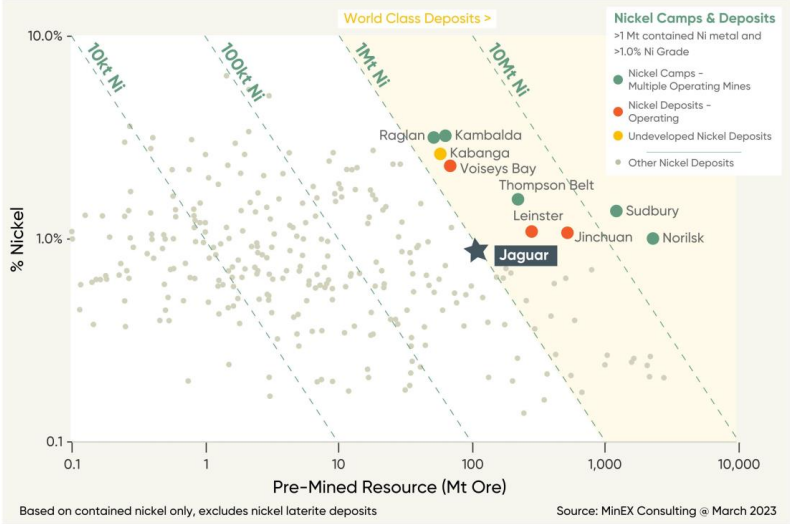
Geology & Resources

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.

Jaguar stacks up with other globally significant nickel sulphide projects

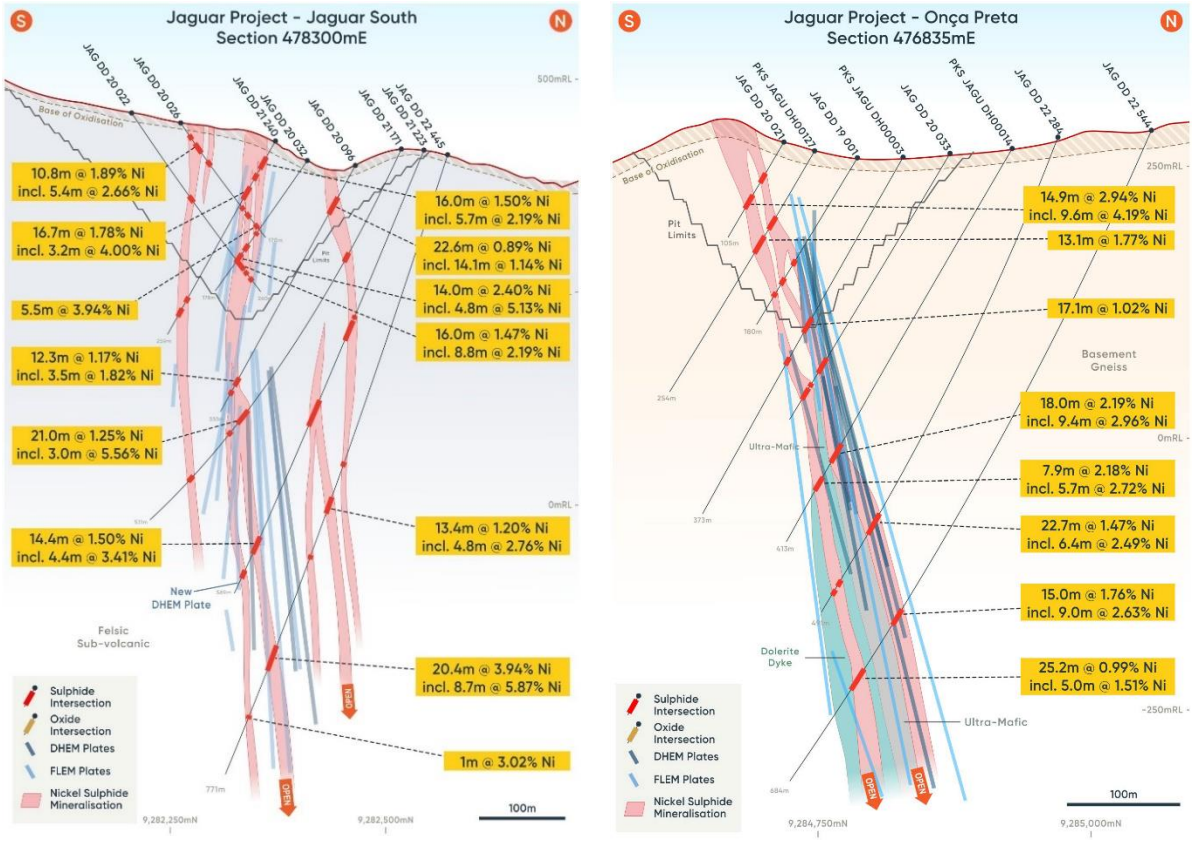
Figure 27: Comparison of Jaguar's MRE with other global nickel sulphide projects.



Source: CTM

The current 109.2Mt at 0.87% Ni MRE for 949kt of nickel metal already makes Jaguar one of the world's largest nickel sulphide ore bodies of good, open pitable grade. The next iteration of the MRE is expected to contain more than 1Mt of nickel.

Figure 28: Example cross sections through the Jaguar South (Left) and Onca Preta (Right) deposits.



Source: CTM

Development Plans

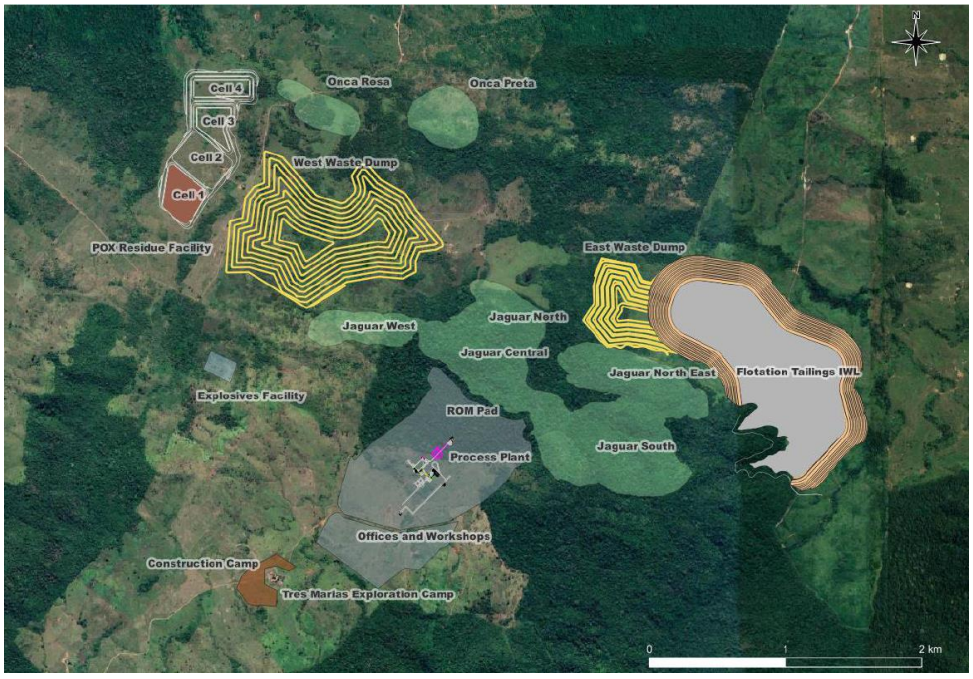
The May 2021 Jaguar Value-Add Scoping Study considers a 2.7Mtpa operation for production of 20kt+ of nickel in sulphate product per annum over an initial 13-year mine life. A Detailed Feasibility Study scheduled for late-2023 is expected to positively revise study parameters based on the 2023 MRE update. We anticipate construction will commence in 2024 with first production in late 2025.

Mining

The project is expected to have a mine life exceeding 17 years

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. Recent pit optimisations for the Jaguar group of deposits suggest these operations will ultimately coalesce into a singular 3km long x 1km wide super pit with a LOM strip ratio of ~7.5:1. With proven vertical ore body continuity, we expect that mining will inevitably migrate to underground operations.

Figure 29: Planned Jaguar site infrastructure layout.



Source: CTM

Metallurgy & Processing

Hydrometallurgical processing key to optimisation of revenues

The hydrothermal nature of mineralisation benefits flotation recoveries and processing. To maximise available feed, the plant will be fed with Reserve grade ore blended with mass upgraded through ore-sorting. The plant is currently scaled to 2.7Mtpa throughput of Jaguar's hardest ore type. This will enable the operation to sprint softer ore tonnes when desired. The Jaguar flotation circuit will separate a metal enriched sulphide concentrate which will then be oxidised within a low intensity pressure oxidation vessel (POX). The POX liquor will subsequently be purified before sulphate precipitates of nickel and by-products are crystallised for sale. The market for nickel sulphate has surged in the past two years, driven by increased demand from the EV battery sector. Nickel sulphate demand is estimated to grow at 18-19% CAGR through to 2030. Production of a nickel

sulphate enables CTM to capture +100% payability compared with the ~70% payability received by traditional nickel sulphide concentrate producers. This benefit greatly enhances Jaguar's project economics.

Metal sulphate and hydroxide products sell at a premium to sulphide concentrate

In mid-August 2021 CTM reported that key environmental approvals had been lodged with the state environmental authority SEMAS. The Company is targeting approval of the Environmental Impact Assessment (EIA/RIMA) and grant of a Preliminary Licence (LP) in the near term. The EIA/RIMA submission was prepared using parameters for the Value-Add development scenario, for production of a nickel sulphate product.

Upon grant of an LP, CTM will apply for an Installation Licence (LI), which once granted will allow for construction of site infrastructure. Final Investment Decision and grant of the LI is targeted for Q3 2024, allowing for plant construction to commence in 2025.

CTM has secured possession of three key properties required for development of the Jaguar project.

Green Credentials

Jaguar will be a green machine with a low carbon footprint

Jaguar's sulphate production pathway will produce nickel at a carbon cost of 4.69t of CO_2 per tonne of nickel equivalent metal. This ranks Jaguar's nickel carbon footprint better than 97% 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 ESG focused funds.

Project Valuation

Using a US$17,500/t nickel metal price, we estimate an optimised Present Day $NPV_{9\%}$ of A$1.3B for 100% of the Jaguar Project, equivalent to $2.16 per share.

We value Jaguar at A$1.3B based on a US$17,500/t nickel metal price

Our project model includes the extraction of 65Mt of ore grading 0.87% Ni plus by-products from an open pit only operation. Our pit model assumes a post-strip waste:ore ratio of ~7:1. We assume a mined grade of 1.1% Ni in the first four years, and 0.82% Ni thereafter. Our process plant is configured to mill 2.7Mtpa of ore sorted feed with later flotation, pressure oxidation, purification and crystallisation of high value nickel sulphate, cobalt hydroxide and zinc hydroxide by-products.

We assume US$440M in initial capital expenditure including pre-strip. Our model generates an average life-of-mine AISC of US$4.2/lb (net-byproducts) of payable nickel throughout life of mine. We maintain our 107% metal payability for a nickel sulphate product. Our model uses a static $17,500/t long term nickel price.

We model a 24-month development period starting construction in Q1 CY2025 with commissioning beginning late 2026 and commercial production ramp up from Q1 2027.

De Grey Mining (DEG)

Hemi

Analyst: Patrick Streater

BUY

Current Price	$1.16
Valuation	$1.69

Ticker:	**DEG**
Sector:	**Metals & Mining**
Shares on Issue (m):	**1,799.1**
Market Cap ($m):	**2,078.0**
Cash Est. ($m)	382.9
Debt Est. ($m)	0.0
Enterprise Value ($m):	**1,695.0**
52 wk High/Low:	**$1.69 $1.06**
12m Av Daily Vol (m):	**4.2**

Projects	**Stage**
Mallina	Definitive Feasibility Study

Mineral Resource	**Mt**	**Au (g/t)**	**Au (Moz)**
Mallina	278.0	1.30	11.7

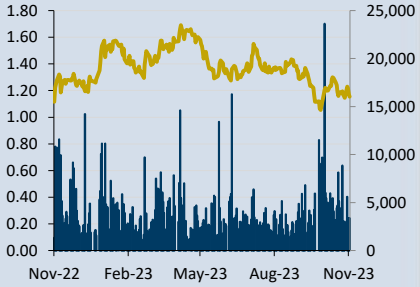
Ore Reserve	**Mt**	**Au (g/t)**	**Au (Moz)**
Mallina	120.8	1.50	6.0

Cashflows	**2022**	**2023**
Operating Cashflow	-6.3	-12.6
Investing Cashflow	-121.5	-81.9
Financing Cashflow	120.3	143.6
Cash Balance	63.5	112.7

Directors:	
Simon Lill	Non-Executive Chairman
Glenn Jardine	Managing Director
Peter Hood, AO	Non-Executive Director
Andrew Beckwith	Non-Executive Director
Paul Harvey	Non-Executive Director
Emma Scotney	Non-Executive Director
Peter Canterbury	CFO

Substantial Shareholders:	**%**
Gold Road Resources	19.4%
BlackRock	6.4%

Share Price Graph and Trading Volumes



Quick Read

In September this year De Grey (DEG) released the DFS for its Hemi Project that set in motion the development of Australia's most significant gold discovery in the last 20 years. Scheduled for first production in mid-2026, Hemi will be a 530kozpa operation over an initial 12-year mine life located in the Tier 1 mining jurisdiction of WA.

Overview

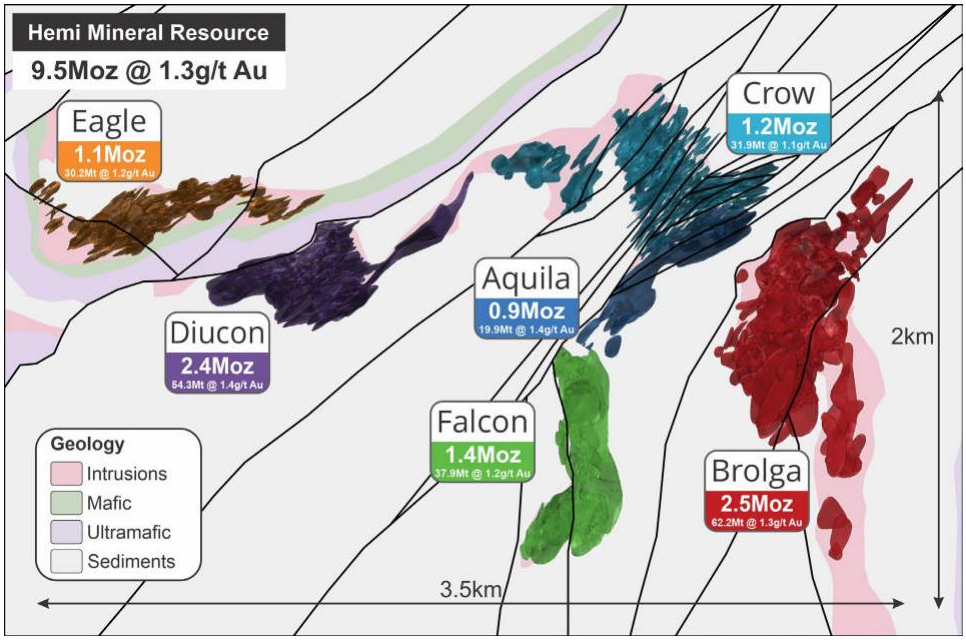
Location & Infrastructure

Hemi is located in the Pilbara region of WA approximately 85km south of Port Headland. Access to Hemi is a 60-minute drive from Port Hedland via sealed roads. Existing infrastructure in the area includes major sealed highways within 20km of Hemi, two gas pipelines located 5km and 20km from Hemi. A 22KV electricity transmission line also sits within 20km of Hemi.

Deposit & Geology

Hemi is an intrusion-related gold deposit located on the regional scale east-west trending Mallina Shear Zone. Hemi was discovered in late 2019 through systematic 640m x 160m spaced air core drilling. Mineralisation is hosted within several quartz-diorite intrusions that have intruded into Archean aged Mallina Basin sediments. The Hemi Mineral Resource currently totals 9.5Moz at 1.3g/t Au, consisting of six individual deposits - Aquila, Brolga, Crow, Duicon, Eagle and Falcon.

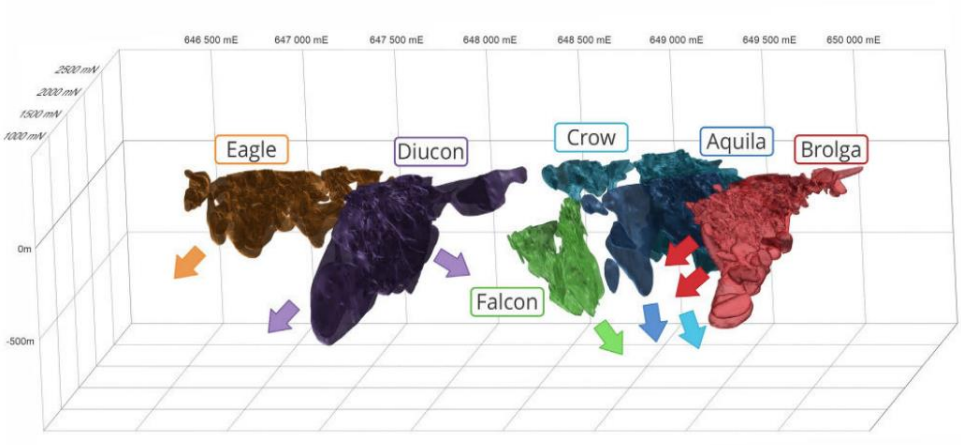
Figure 30: Hemi deposit Mineral Resource totals as of June 2023.



Source: DEG

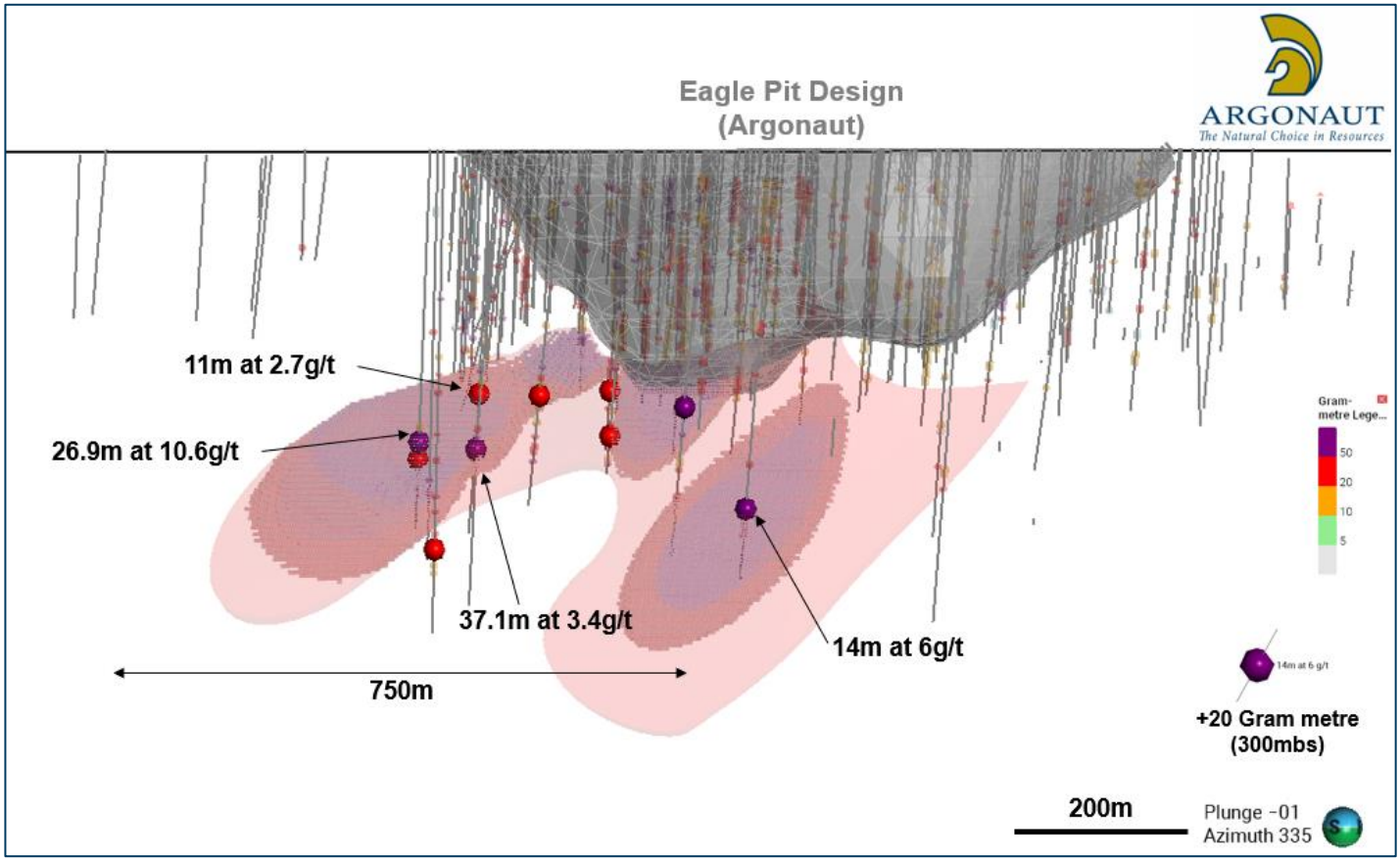
Figure 31: Hemi mineralisation wireframes with extensional resource growth targets highlighted.

Growth of the Hemi resource continues as drilling targets down plunge extensions



Source: DEG

Figure 32: Long section of Eagle deposit with +20 gram metre intercepts deeper than 300m below surface plotted.



Source: Argonaut Research with ASX reported drilling data

Hemi DFS and Mine Plan

The Hemi DFS estimates pre-production capital of A$1.345B

In September this year DEG delivered its Hemi DFS which proposed a 530koz/pa operation over a 12-year mine life to produce a total of 5.7Moz. Pre-production capital is estimated at A$1.345B (plant, infrastructure and pre-strip). Open pit production will be sourced from the six open pits at Hemi with an average life-of-mine strip ratio of 6.6:1. Hemi will be a large-scale open pit operation with a relatively high head grade of 1.7g/t Au (years 1-10).

Table 6: Hemi Gold Project DFS key mining physicals.

Key Production Outcomes	Unit	DFS
Life of Mine	Years	12
Ore Tonnes mined	Mt	122
Strip Ratio - Hemi	waste:ore	6.6
Ore processing rate	Mtpa	10
Average processed grade (LOM)	g/t Au	1.5
Average processed grade (Yrs 1-10)	g/t Au	1.7
Average Metallurgical recovery	%	93.5
Average gold production - first five years	oz pa	553,000
Average gold production - first 10 years	oz pa	530,000
Recovered gold	**Moz**	**5.7**
Hemi Contribution		100%

Source: Argonaut Research

The current development scenario calls for a 10Mtpa process plant

Processing of the Hemi ore will occur through a new 10Mtpa processing plant. The front end of the plant will incorporate primary and secondary crushing, high-pressure grinding rollers and ball mills. The majority of the gold will then undergo flotation to produce a concentrate that is fed into two autoclaves to oxidise the concentrate at operating temperatures of 225°C and 3,250KPa.g. The proposed autoclave circuit has been designed with a 0.8Mtpa capacity that aligns with testing that indicates an 8% mass pull sulphide concentrate. A standard CIL circuit at the back-end of the flowsheet includes 7 CIL tanks.

Table 7: Hemi Project Key DFS financial metrics.

	Unit	DFS
Gold price	$/oz	2,700
Financial Forecasts		
Net free cashflow (pre-tax)	$B	6.3
Net free cashflow (post-tax)	$B	4.5
EBITDA – Life of Mine	$B	7.9
Payback period (pre-tax)	Years	1.5
Payback period (post-tax)	Years	1.8
$NPV_{5\%}$ (pre-tax)	$B	4.2
$NPV_{5\%}$ (post-tax)	$B	2.9
Internal Rate of Return (pre-tax)	%	45
Internal Rate of Return (post-tax)	%	36
Upfront Capital Cost Estimate		
Plant and Infrastructure Capital Cost	$M	1,136
Design-Growth Allowance and Contingency	$M	162
Pre-Strip Capital Costs	$M	47
Total Pre-Production Capital Costs	$M	1,345

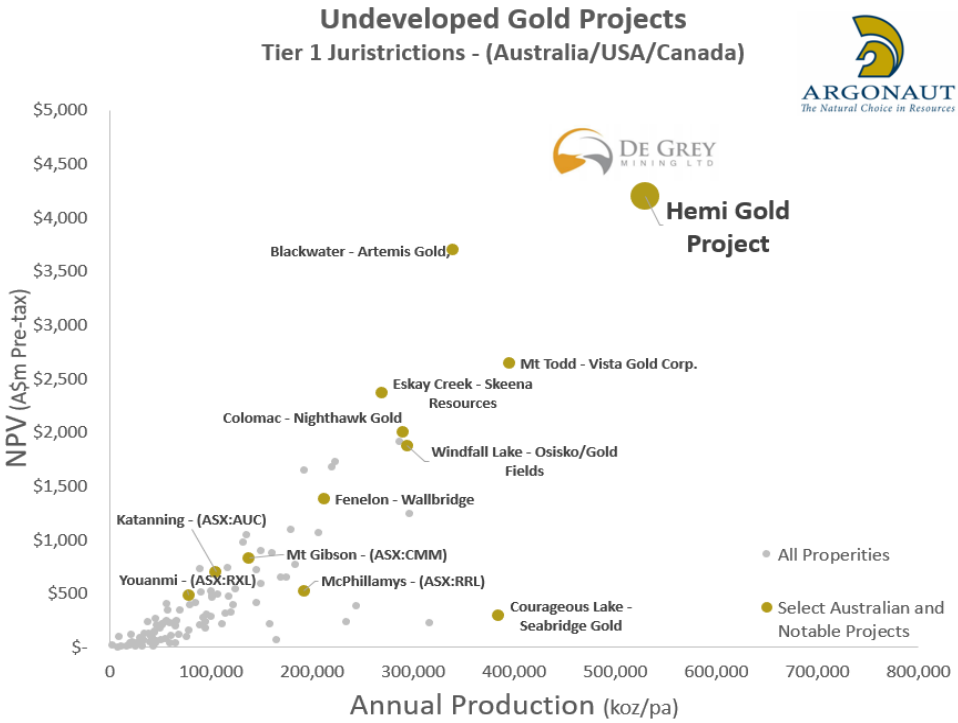
Source: DEG, adapted by Argonaut

Hemi is placed as one of the largest undeveloped gold projects globally both from a potential production profile and valuation. Hemi alone now totals 9.5Moz at 1.3g/t Au since the first discovery hole back in February 2020. Figure 33 graphs Hemi compared to

other undeveloped gold projects and clearly indicates that Hemi sits within Tier 1 status in regard to scale, jurisdiction and capital efficiency.

Figure 33: Hemi Project Key DFS financial metrics.

Hemi clearly sits amongst the most significant gold discoveries in Australia in the last 20 years



Source: Argonaut Research, S&P Global

Argonauts 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 6% is used. Future tax benefits are added back as an estimate of present value. Argonaut's valuation assumes a A$2,714 (US$1,900) gold price over a mine life of 12 years with production commencing mid-2026. Argonaut's highest valuation occurs under a 100% De Grey build-and-operate scenario.

Argonauts spot price valuation for De Grey is $2.18 per share (A$3,044 gold price)

Table 8: Valuation summary, project September 2023.

Valuation summary	A$M	A$/sh
Hemi project 6% real after tax DR	2329	1.26
Exploration, all sites	582	0.32
Corporate overheads	-147	-0.08
Cash	384	0.21
Debt	0	0.00
Tax benefit	70	0.04
Hedging	0	0.00
Option/equity dilution	-97	-0.05
NAV	**3,122**	**1.69**

Source: Argonaut Research

Evolution Energy Metals (EV1)

Chilalo

Analyst: George Ross

SPEC BUY

Current Price	$0.14
Valuation	$0.52

Ticker:	**EV1**
Sector:	**Metals & Mining**
Shares on Issue (m):	**227.2**
Market Cap ($m):	**30.7**
Cash Est. ($m)	1.5
Debt Est. ($m)	0.0
Enterprise Value ($m):	**29.2**
52 wk High/Low:	**$0.32** **$0.14**
12m Av Daily Vol (m):	**0.2**

Projects	**Stage**
Chilalo	Definitive Feasibility Study

Mineral Resource	**Mt**	**% TGC**	**kt (TGC)**
Chilalo	67.3	5.4%	3,667

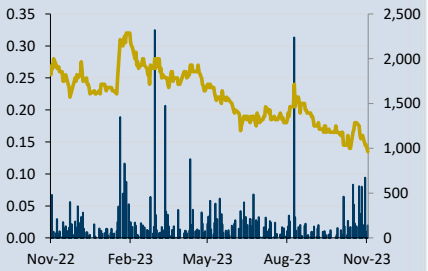
Ore Reserve	**Mt**	**% TGC**	**kt (TGC)**
Mineral Resource	5.3	10.9%	576

Cashflows	**2022**	**2023**
Operating Cashflow	-5.6	-13.4
Investing Cashflow	0.0	0.0
Financing Cashflow	11.2	12.3
Cash Balance	5.4	4.4

Directors:	
Henk Ludik	Interim Non-Executive Chair
Phil Hoskins	Managing Director
Stephen Dennis	Non-Executive Director
Mike Spreadborough	Non-Executive Director
Cameron Dowling	Non-Executive Director
Chris Knee	CFO

Substantial Shareholders:	**%**
ARCH Sustainable Resources (+ top up)	22.0%
Marvel (Escrowed Until Nov 2023)	20.0%

Share Price Graph and Trading Volumes



Quick Read

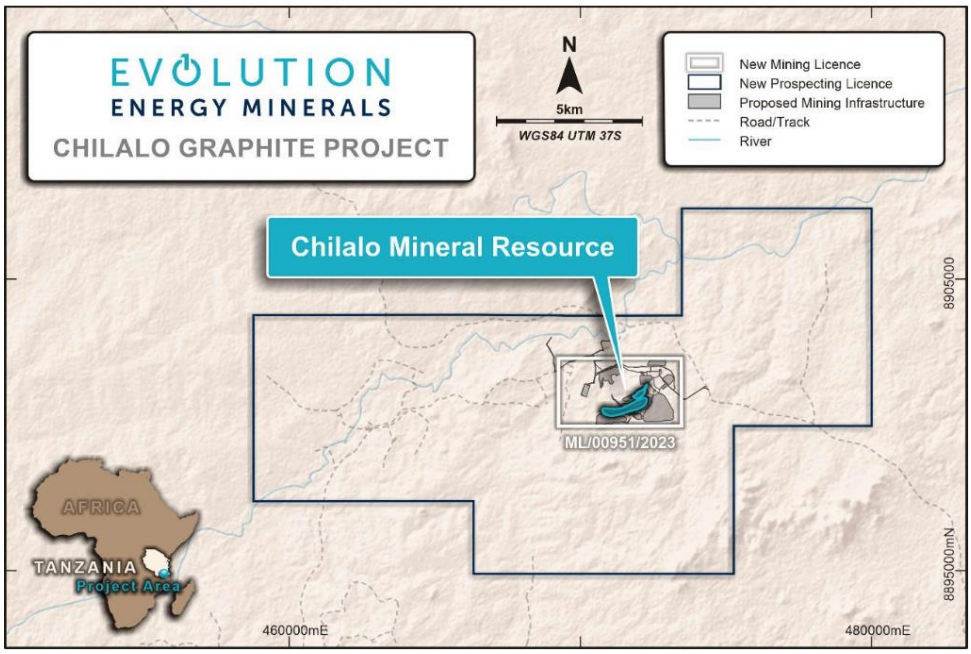
Evolution Energy Minerals (EV1) had a busy year in 2023. Key activities included completion of the Chilalo Graphite DFS/FEED, approval of key agreements with the Tanzanian Government, renewal of mineral licences and a new offtake and strategic agreement with graphite anode manufacturer BTR. Chilalo's long term profitability is predominantly driven by margins generated from sales of high-value, semi-refined expandable graphite for niche technology applications.

Overview

Location and Tenements

The Chilalo Project is located in south-eastern Tanzania, approximately 400km south of Dar Es Salaam and 180km west of the port city of Mtwara. Project tenements consist of a single Mining Licence and one Prospecting Licence and cover a total area of 170.8km^2. These licences were issued in September 2023 as replacements over existing tenure and refresh their life. The new ML has a term of 10 years with a potential renewal for an additional 10 years.

Figure 34: Chilalo tenements.



Source: EV1

Geology and Resources

The project consists of one Mining Licence and four Prospecting Licences. It is situated within the Proterozoic Mozambique Belt that trends from Tanzania towards the south through Mozambique. The Chilalo deposit is a series of graphitic zones within a felsic

gneiss. The project was initially considered prospective for nickel. It was first drilled for graphite in 2014 following the identification of high graphite content in rock chip samples. Chilalo high-grade Resources currently total 20.1Mt grading 9.9% total graphitic content (TGC).

Chilalo hosts a sizeable Resource with potential to expand

Table 9: Chilalo Resources and Reserves

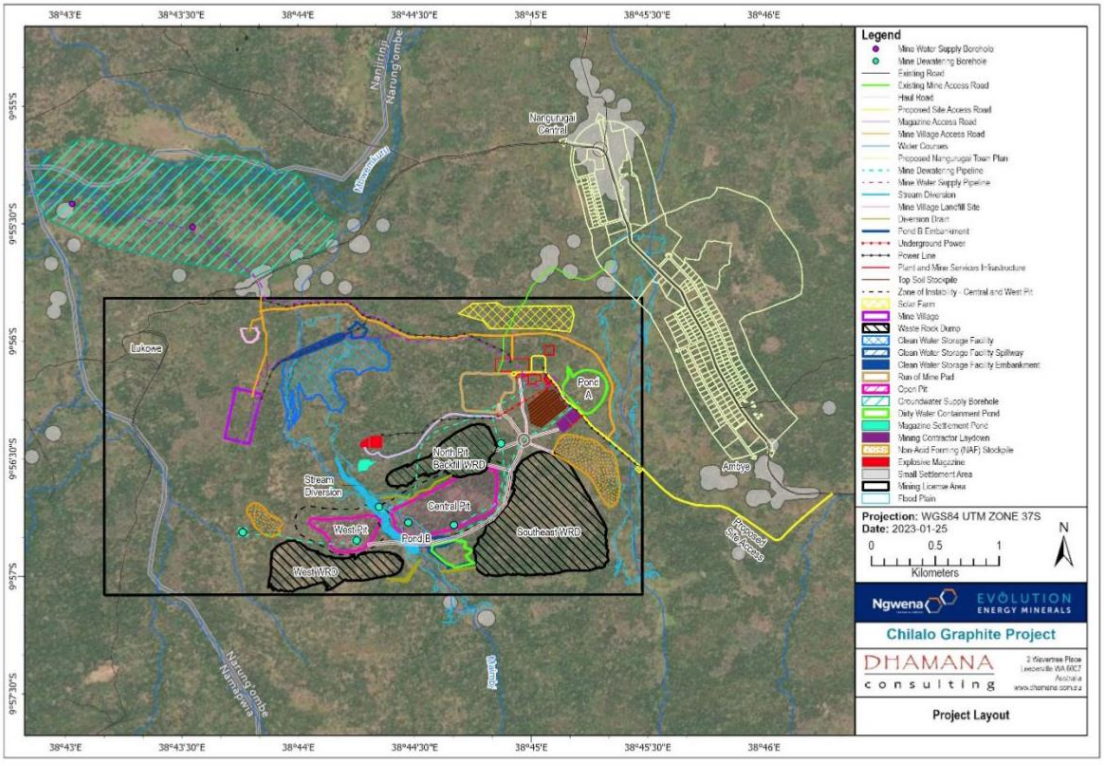
Chilalo	Mt	TGC(%)	TGC Mt
Total Resources (High Grade)	20.1	9.9	2.0
Indicated	10.3	10.5	1.1
Inferred	9.8	9.3	0.9
Total Reserves	8.0	10.5	0.8
Probable	8.0	10.5	0.8

Source: EV1

Feasibility/FEED Outcomes

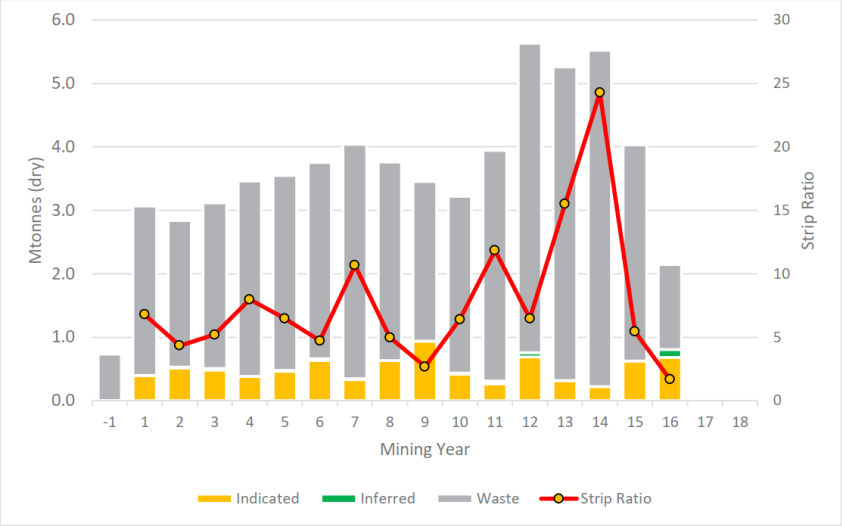
EV1's DFS/FEED work for development of the Chilalo graphite project envisages an initial 17-year operating life, with open pit mining drawing 8Mt of ore grading 10.5% TGC from the project's 20Mt at 9.9% TGC Resource base. Significant potential exists to extend mine life and/or expand annual production through growth in regional deposits. Ore is to be treated via a 500ktpa multistage flotation plant and classified into separate fraction size products. Product flake size output will be customisable to suit customer requirements. Concentrate products will be packaged into 1,000kg bulk bags and 25kg paper bags as desired by end users. The process plant is modelled with a 7-month throughput and recovery ramp-up period.

Figure 35: Planned Chilalo development.



Source: EV1

Figure 36: Chilalo mine plan schedule.



Source: EV1

Chilalo's current mine plan will target higher-grade, low strip ratio material in early years

Chilalo's basket of graphite contains a high proportion of coarse (>180µm) flake particles (Table 10). Coarse flake is used in a range of niche applications including high-tech (and value) foils, gaskets and fuel cells. Fine (<150µm) flake typically sells for lower value than coarser material and may be used for production of battery anode material.

Table 10: Flake size distribution variability test work.

Mesh size	Microns	North Oxide	North Fresh	Central Oxide	Central Fresh	West Oxide	West Fresh	Weighted Average[1]
% of Feed		2%	7%	9%	62%	5%	15%	100%
+20	> 850	2.7	0.6	-	0.6	0.7	1.2	0.7
+32	500 – 850	12.9	8.8	5.1	10.8	7.0	9.6	9.8
+50	300 – 500	20.3	18.0	28.3	20.7	18.1	19.9	20.6
+80	180 – 300	20.9	23.5	30.7	27.7	27.5	27.2	26.9
+100	150 – 180	4.9	5.6	8.5	6.1	6.3	6.3	6.3
-100	< 150	38.3	43.4	27.4	34.1	35.9	35.9	35.8

Source: EV1

Chilalo's graphite basket is dominated by coarse flake

Argonaut's Chilalo discounted cash flow model assume initial capital expenditure of US$120M paid for via a ~40% Equity / 60% Debt split. We model construction of the 500ktpa project over 24 months and budget 12 months of process ramp-up. Argonaut's model estimates a build date $NPV_{8\%}$ of A$406M on a 100% basis.

Table 11: Argonaut's production and cost model for Chilalo (Years 1-15).

Operation Year	Y<0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15
Year Ending	2025E	2026E	2027E	2028E	2029E	2031E	2032E	2033E	2034E	2035E	2037E	2038E	2039E	2040E	2041E	2043E
Ore Tonnes Mined	0	150	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Grade (%TGC)	0.00	12.00	12.00	12.00	12.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	8.00	8.00	8.00	8.00
Recoveries %	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%	96%
Strip Ratio	0.0	4.0	6.0	6.0	6.0	7.0	7.0	7.5	7.5	7.5	7.5	7.5	7.5	11.0	11.0	8.0
Graphite Conc Sales (kt)	0.0	0.0	47.3	60.6	57.6	50.6	43.6	37.8	35.0	35.0	35.0	32.8	25.5	25.5	25.5	25.5
Micronised Graphite Sales (kt)	0.0	0.0	0.0	0.0	1.2	2.8	5.0	7.2	7.9	7.9	7.9	7.4	5.8	5.8	5.8	5.8
Expandable Graphite Sales (kt)	0.0	0.0	0.0	0.0	1.8	4.6	9.3	12.8	12.2	12.2	12.2	11.4	8.9	8.9	8.9	8.9
Capital Expenditure (A$M)	114.3	57.1	6.6	6.5	9.2	9.0	8.9	8.7	8.6	8.5	5.5	5.4	5.3	5.3	5.2	5.1
OPEX Graphite Conc (US$/t)	0	1302	708	709	764	764	808	809	811	855	1050	1214	1077	537	537	537
OPEX /t All Products (US$/t)	0	1302	708	736	835	902	1011	1012	1013	1058	1255	1419	1282	737	737	737

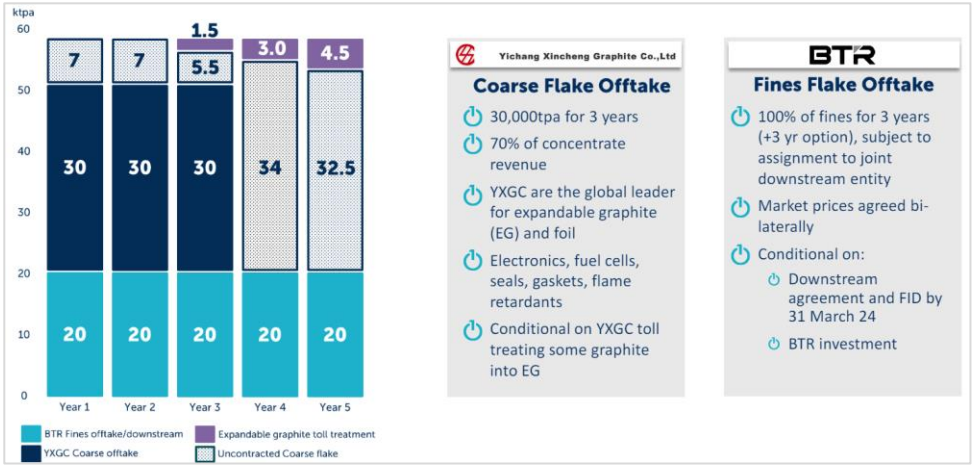
Value-Add Production

EV1 intends to diversify and boost its Chilalo revenue stream through integrated downstream processing of expandable and micronised graphite offerings. Processing of raw graphite into specialised products can significantly enhance value at relatively little cost. Customers of specialised graphite intermediate products require ultra-high purity, consistent product with low abundances of deleterious elements. Due to the sensitive nature of proprietary technologies and the rigours of the consumer electronics business, the qualification process for battery anode material and foils normally takes years.

EV1 is pursuing a strategy of value-add production

Offtake agreements with world leading graphite processors Yinchang Xincheng Graphite Co (YXGC) and BTR New Material Group (BTR) provide EV1 with a commercial edge over peer developers.

Figure 37: EV1's product segments and offtake agreements (Years 1-5).



Source: EV1

Expandable Graphite Product

EV1 has executed an offtake agreement with Chinese expandable graphite manufacturer YXGC for the purchase of 30ktpa of coarse flake graphite over an initial three-year period. YXGC's expandable graphite is used in the manufacture of high-value graphite foil, bi-polar plates and graphite seals. EV1's graphite has been shown to contain low abundances of deleterious elements molybdenum and boron. High purity graphite is essential for the production of sophisticated technology componentry.

Expandable graphite and anode partnerships to drive optimisation of revenues

BTR Agreement, a Pathway to Anode

In August 2023, EV1 and Chinese Anode producer BTR agreed to work together towards execution of a downstream agreement by 31 March 2024. BTR will bring its existing customer base and advanced anode processing technologies to the table, while EV1 will provide a baseload of natural graphite fines from its Chilalo Project. BTR and EV1 have entered into a 3-year binding offtake agreement for its fine flake graphite with an option to extend for a further 3-years. 90% of all Chilalo graphite products are now covered by offtake agreements. BTR will complete accelerated qualification and product development of anode material produced from graphite fines concentrate supplied by EV1.

Global Lithium Resources (GL1)

Manna

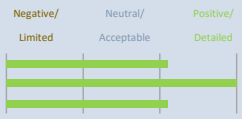
Analyst: George Ross

SPEC BUY

Current Price	$1.19
Valuation	$2.45

Ticker:	**GL1**
Sector:	**Metals & Mining**

ESG Ratings:



Key Financials

Shares on Issue (m):	**259.9**
Market Cap ($m):	**309.3**
Cash Est. ($m):	53.4
Debt Est. ($m):	0.0
Enterprise Value ($m):	**256.0**
52 wk High/Low:	**$2.57** **$1.04**
12m Av Daily Vol (m):	**0.8**

Projects	**Stage**
Manna (100%)	Scoping Study
Marble Bar (100%)	Resource Development

Mineral Resource	**Mt**	**Li_2O (%)**	**Li_2O (kt)**
Manna (100%)	36.0	1.13%	406.8
Marble Bar (100%)	18.0	1.00%	180.0

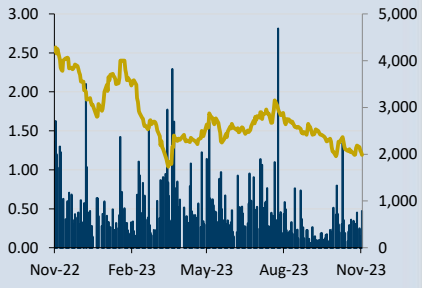
Cashflows	**2022**	**2023**
Operating Cashflow	-1.2	-9.3
Investing Cashflow	-5.0	-2.5
Financing Cashflow	9.1	41.1
Cash Balance	3.6	32.9

Directors:

Geoff Jones	Non-Executive Chair
Ron Mitchell	Managing Director
Dianmin Chen	Non-Executive Director
Hayley Lawrance	Non-Executive Director
Greg Lilleyman	Non-Executive Director

Substantial Shareholders:	**%**
Suzhou TA&A	9.9%
Mineral Resources	9.9%
Yongfang Guo	6.5%
Goldenstar Energy	6.2%

Share Price Graph and Trading Volumes



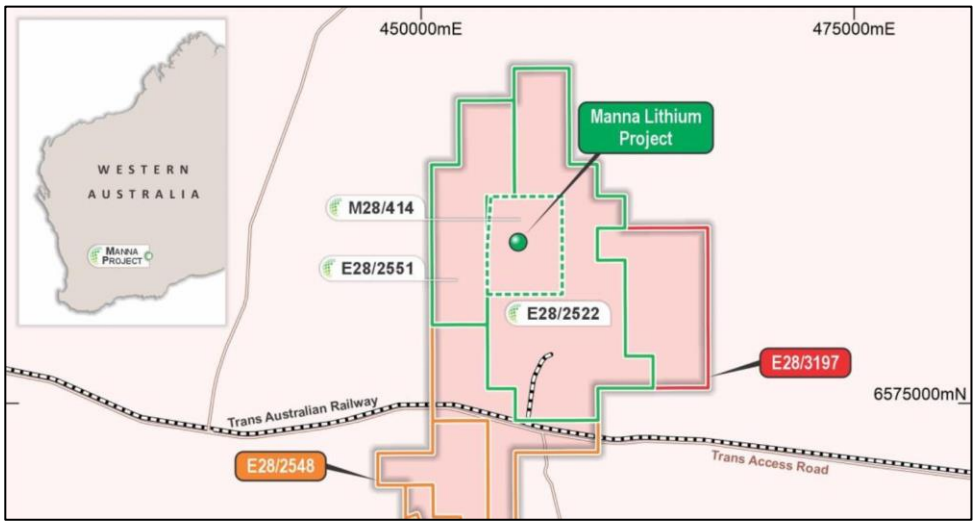
Quick Read

GL1's Manna Project represents one of a handful emerging new Western Australian lithium projects of meaningful scale. 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 anticipated to follow shortly thereafter.

Overview

Manna is located 100km east of Kalgoorlie with outcropping lithium bearing pegmatites identified over a 5km x 1.5km area. In late 2021, GL1 secured 100% of the Manna Project tenements and associated lithium rights. The project tenure area was further expanded in June of 2022 through Collaboration Agreement with Kairos Minerals (ASX: KAI) over the Roe Hills Lithium Project area and an Option Agreement with Baracus Pty Ltd over E28/3197. The combined Manna Project tenements cover an area of 168 km^2. The Trans Australian Railway bisects project tenure. This railway runs to ports at both Perth and Esperance via Kalgoorlie and could provide a freight link for future production.

Figure 38: Manna Lithium Project northern tenure area.

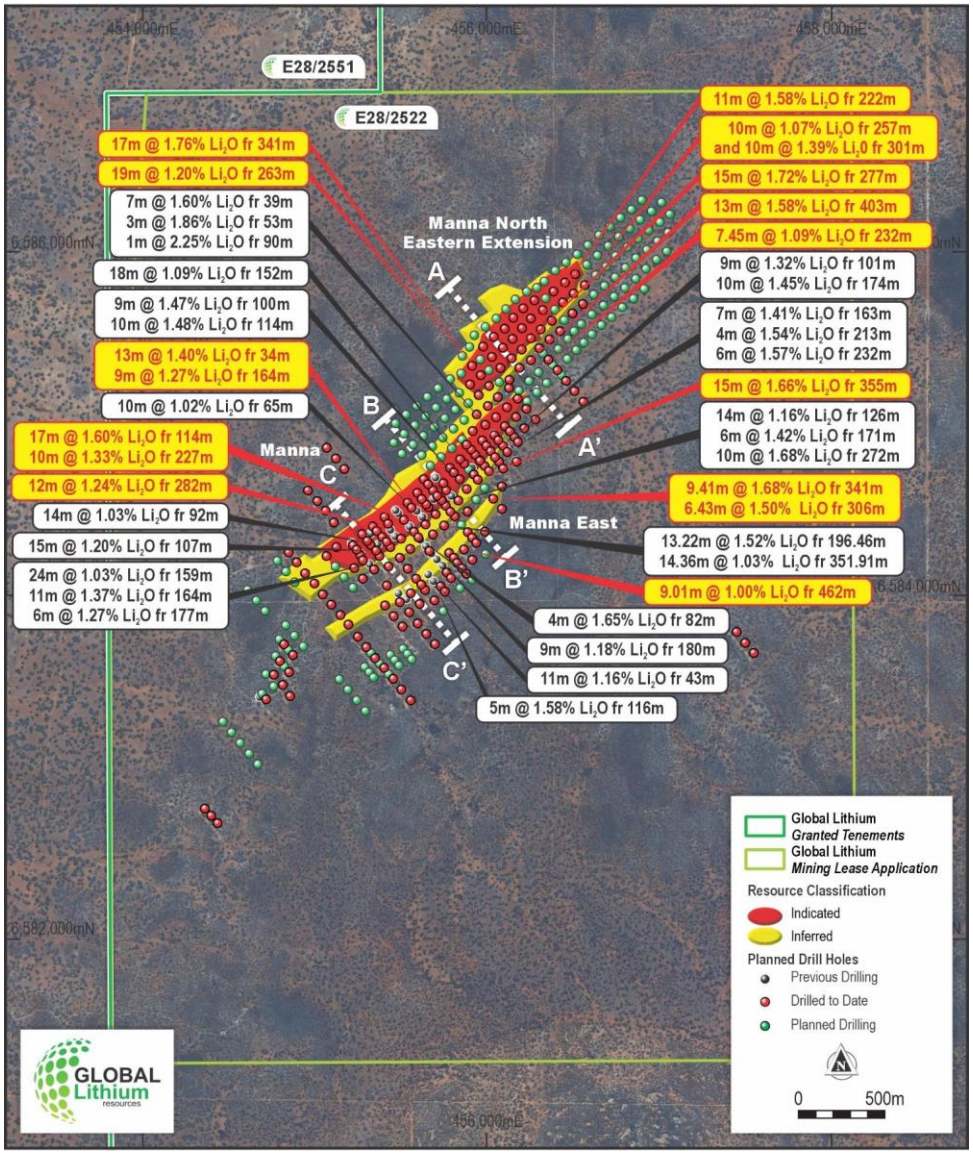


Source: GL1

Resource

In July 2023, Global Lithium upgraded the Manna Lithium Project's JORC 2012 Mineral Resource to 36.0Mt at 1.13% Li_2O after adding approximately 5,000 assay results from the CY2022 exploration program that were not available at the time of the previous update in December 2022. This upgrade included a 24.1% increase in total contained Li_2O from 327,000 tonnes to 406,000 tonnes.

Figure 39: Mapped pegmatites at the Manna Lithium Project. Drilling results shown.



Source: GL1

Manna is already very large and will get bigger

Drilling

GL1 has 50,000m of RC and Diamond drilling planned for the CY2023. The outcomes of this program are expected to contribute towards an MRE update during the first half of CY2024.

Technical Studies

Concurrent to aggressive drilling, GL1 is advancing technical, environmental and heritage work programmes. Successful completion studies could enable rapid project development.

Ore sorting results are de-risking project processing

In late May 2023, GL1 reported preliminary ore sorting results for Manna ore. The test run succeeded in elevating head grade from 0.88% Li_2O to 1.67% Li_2O at an overall recovery of 94% and mass pull of 57%. The mineralised product returned a low iron grade of 2% Fe_2O_3, down from 12% in feed. A second phase of ore sorting trials reported in September succeeded in upgrading high grade ore from 1.41% Li_2O to 1.64% Li_2O with a recovery of

89% and mass pull of 76%. A campaign of comprehensive flotation and dense media separation tests remain ongoing.

Results of the Manna DFS is scheduled for completion in Q1 of CY2024 with a Final Investment Decision anticipated to follow shortly thereafter.

Mining Lease Application

GL1 has lodged a Manna Project Mining Lease Application (MLA) to the Department of Mines, Industry regulation and Safety. The MLA covers an area of 2,406 Ha, encapsulating the Manna Resource, the planned process plant and areas required for supporting infrastructure including waste dumps.

Mining Lease application has been submitted

Figure 40: Manna Mining Lease Application.

Source: GL1

GL1's Manna Scoping Study Outcomes

The Scoping Study envisages open pit mining of the Manna Resource with treatment through a 2Mtpa dual Flotation-DMS plant.

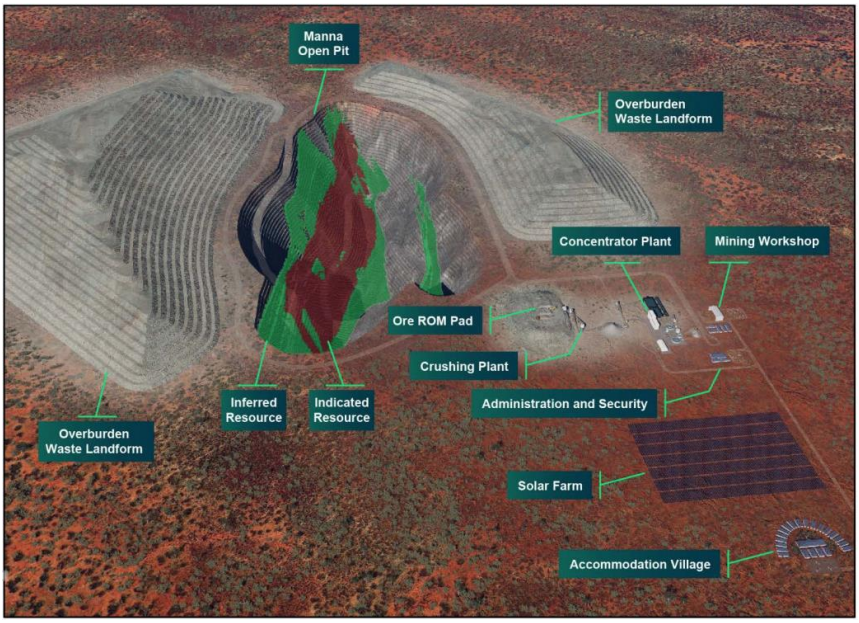
GL1's Manna Scoping Study reports strong financial outcomes using US$2,500/t SC5.5 concentrate pricing

Mining is scheduled for six nested pit stages, centred around the core of Indicated Resources. The ultimate pit shell extends 400m depth, 770m width and 1,650m length. A 400m depth of this footprint of pit seems aggressive. Average waste:ore Strip Ratio varies from 12.6:1 in Stages 1 & 2, to 33.4:1 during Stage 6.

Using GL1's figures, the total Project Capital Cost estimate is reported as A$419M, including A$69M in contingency and A$15M in Owners Costs. The operation is modelled to produce approximately 221kt of 5.5% Li_2O spodumene concentrate product per annum over a ten-year mine life. The project model generates a LOM cash cost of A$934/t SC5.5 and AISC of A$1,219/t (FOB, Esperance). GL1's financial modelling reports a pre-tax $NPV_{8\%}$ of A$2.8 billion and IRR of 103% using a product sale price of US$2,500/t (~A$3,571) SC5.5 (CIF, China).

The Study includes inputs from Snowden Optiro for MRE estimation, Resolve Mining Solutions for Resource optimisation, mine planning and mining costs, and Minsol Engineering Consultants for flowsheet development, engineering and cost estimation.

Figure 41: Manna development layout.



Source: GL1

Strategic Partnership and Investors

GL1 has fostered relationships with several global significant partners. Top GL1 shareholders include battery giant Canmax (formerly named Suzhou TA&A) and Australian diversified miner Mineral Resources (ASX:MIN).

Argonaut's Development Scenario Valuation

Our Manna mining model estimates a build date post-tax $NPV_{7\%}$ of A$766M (equivalent to $2.96 per listed share) and present-day value of $585M ($2.26 per share) assuming that construction begins in 2026.

Argonaut's more conservative development scenario strategy assumes a project optimised to a lower product price

Argonaut's current Manna development model assumes a 1.6Mtpa throughput operation treating 16Mt of inventory grading 1.05% Li_2O. This is a lower throughput and smaller inventory than that presented in GL1's February 2023 Scoping Study. Our decision to do so is governed on an SC6 equivalent price of US$1,750/t SC6 which is materially lower than that used by GL1.

Project Transactional Value

Based on 406kt of Li_2O contained within current resources and an A$1,125/t Li_2O transactional metal value, we estimate a current Manna Project transactional value of A$456M.

NOT COVERED

Current Price $0.03

Ticker:	**NWC**
Sector:	**Metals & Mining**
Shares on Issue (m):	**2,261.7**
Market Cap ($m):	**76.9**
Cash Est. ($m)	14.0
Debt Est. ($m)	0.0
Enterprise Value ($m):	**62.9**
52 wk High/Low:	**$0.06** **$0.03**
12m Av Daily Vol (m):	**4.5**

Projects	**Stage**
Antler	Scoping Study
Javelin	Exploration
Tererro	Exploration

Mineral Resource	**Mt**	**CuEq (%)**	**CuEq (kt)**
Antler	11.4	4.10%	467.4

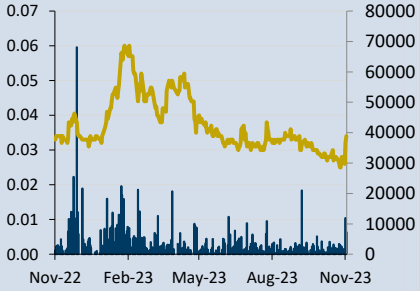
Cashflows	**2022**	**2023**
Operating Cashflow	-3.6	-1.3
Investing Cashflow	-15.9	-15.6
Financing Cashflow	0.8	15.1
Cash Balance	4.4	2.6

Directors & Management:

Richard Hill	Non-Executive Chairman
Mike Haynes	Managing Director & CEO
Nick Woolrych	Executive Director & COO
Tony Polglase	Non-Executive Director
Beverley Nichols	CFO

Substantial Shareholders:	**%**
Resource Capital Funds	6.9%
Ponderosa Investments	6.0%

Share Price Graph and Trading Volumes



New World Resources (NWC)

Antler

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.

Overview

Location & History

The Antler deposit is located in Arizona, approximately 200km south-west of Los Vegas, near the settlement of Yucca. Antler was discovered in 1879 and sporadically mined from 1916 through to 1970 for 70kt of copper-zinc ore grading 2.9% Cu & 6.2% Zn. The main Antler shaft was completed to 200m below surface with stoping completed up to 100m depth.

Geology & Resource

Antler is a high-grade polymetallic VMS type deposit which outcrops over 750m of north-east 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 42), 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 at 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.

Ownership & Permitting

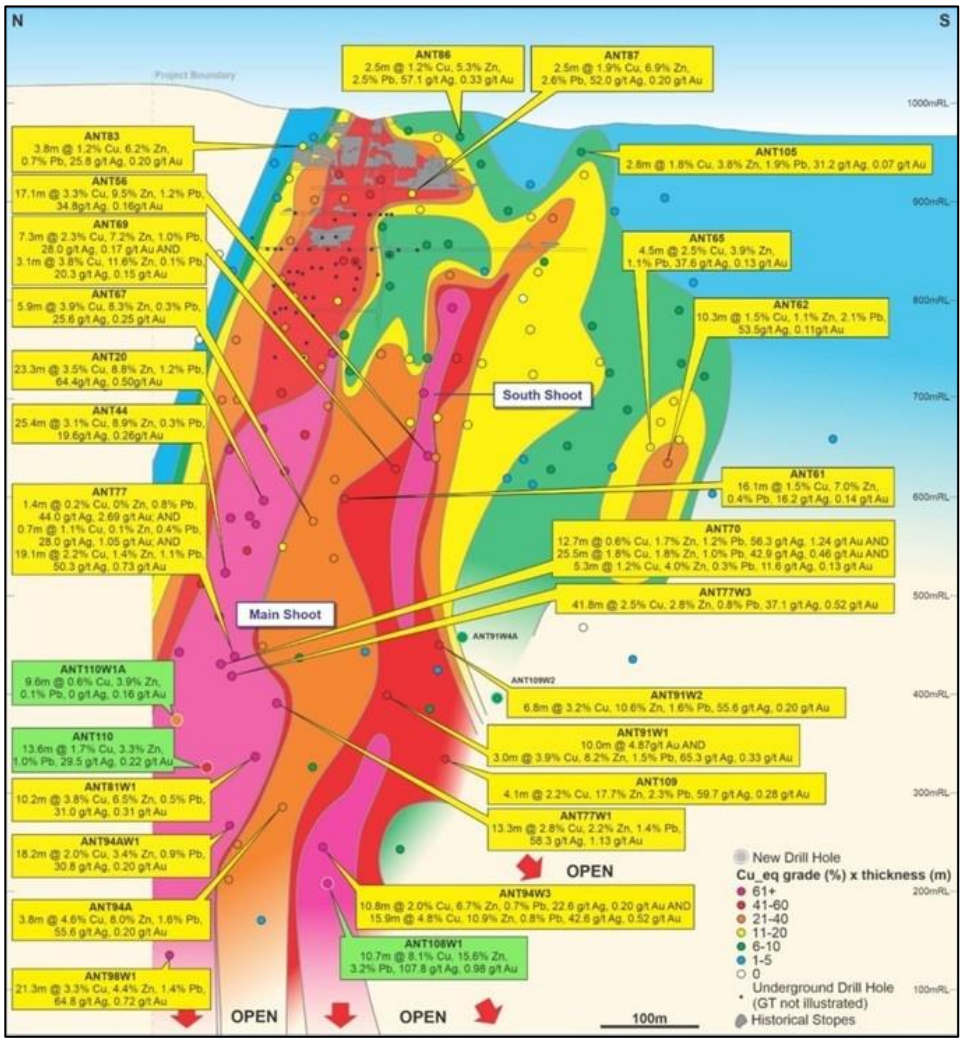
In January 2020, NWC entered into an option agreement for the Antler Project and in October 2021 negotiated a deal for its 100% acquisition. One of NWC's US subsidiaries owns 100% of two patented mining claims where both surface and mineral rights are privately owned. NWC 100% owns an additional 81 unpatented mining claims on adjoining federal lands.

Lodgement of mine permits and necessary approvals is expected to proceed following advancement of the 2023 Pre-Feasibility. Baseline environmental, hydrology and cultural studies remain ongoing.

NWC expects to source water from an unrestricted aquifer to the west of the project near the township of Yucca. NWC has established an extraction bore east of Yucca with flow rates deemed suitable for supply of the operation.

Figure 42: Long section of the Antler deposit with significant intercepts and CuEq grade-thickness contours.

The Antler deposit hosts some sensational grades over significant width



Source: NWC

Potential Development

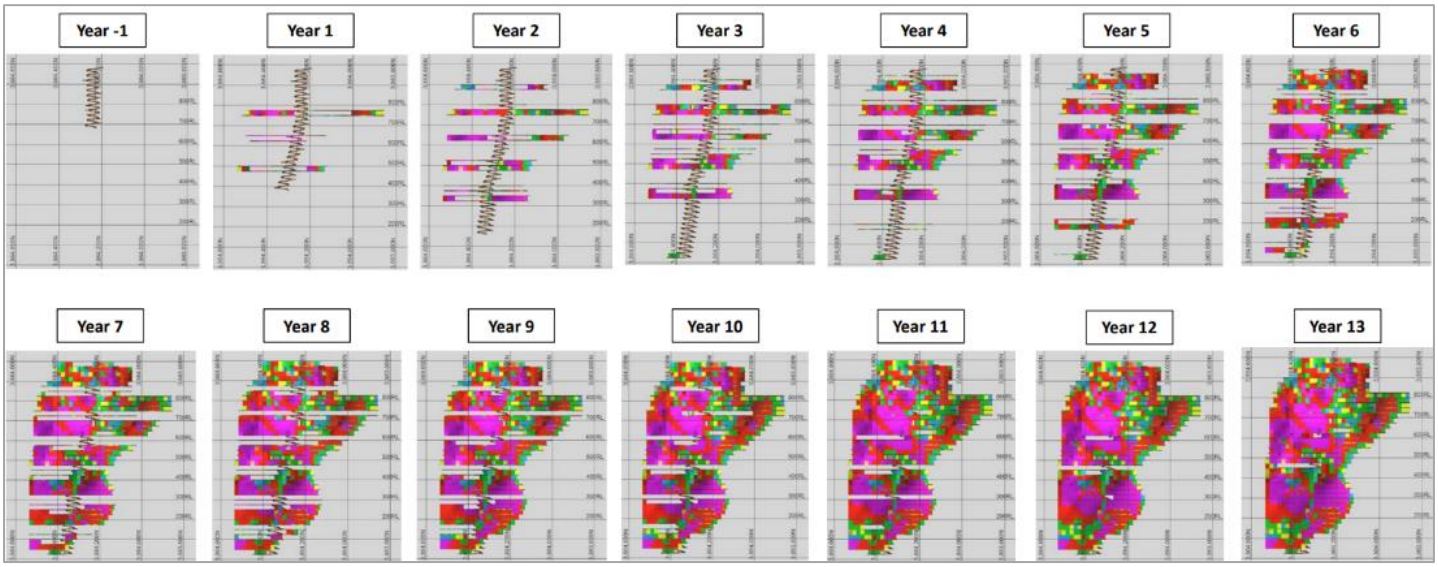
NWC is considering a 1.3Mtpa development

The 2023 Antler Scoping Study examines a 1.3Mtpa operation with an initial 13-year life.

Mining

Underground mining will be completed via long hole stoping with paste infill. Ore will be hauled to the surface via a 5m x 5m single decline. The current mine plan includes 9.3Mt of ore with an average diluted head grade of 1.4% Cu, 3.3% Zn, 0.6% Pb, 22g/t Ag, 0.24g/t Au (3.0% CuEq).

Figure 43: Mine development schedule under the 2023 Antler Enhanced Scoping Study.



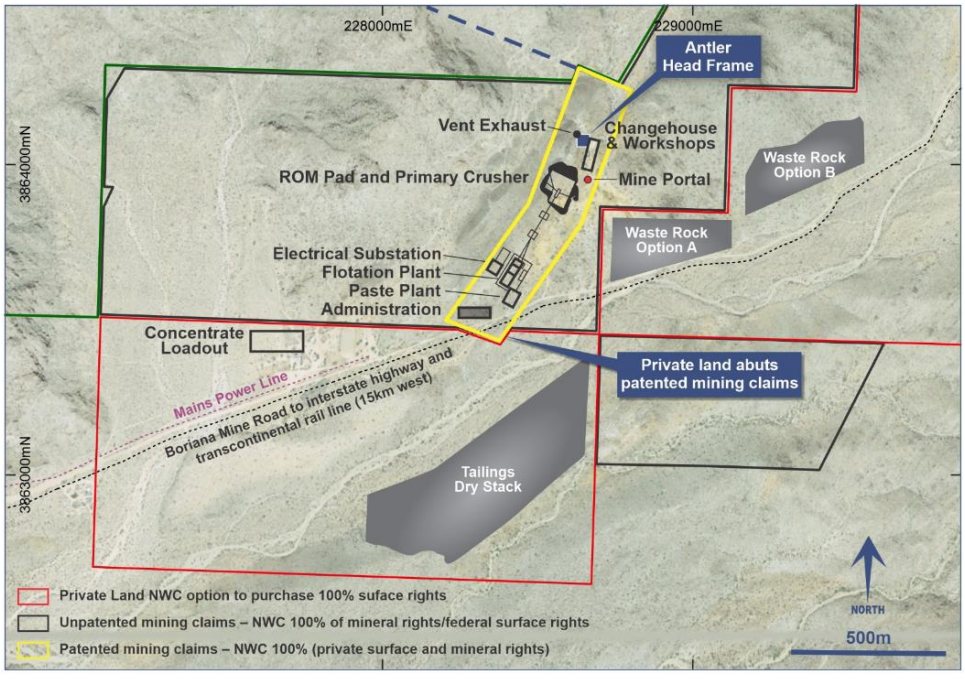
Source: NWC

Metallurgy & Processing

Antler's sulphide ore is amenable to conventional flotation processing. Recent early-stage metallurgical test work and review of available historical mine performance records suggest efficient flotation circuits should achieve metal recoveries of 85%, 89% and 54% for copper, zinc and lead respectively.

It is proposed that the plant will be located exclusively within patented Mining Claims with 100% owned private surface and mineral rights.

Figure 44: Proposed Antler Scoping Study site layout.



Source: NWC

The proposed processing plant flowsheet includes circuits for production of three separate concentrates: copper-gold, zinc and lead-silver. Average life of mine annual recovered metal in the three concentrates is estimated as 15.4kt copper, 37.4kt zinc, 4.6kt of lead, 519koz silver and 3.1koz of gold.

Project Valuation

NWC's project study generates a pre-tax NPV of US$835M

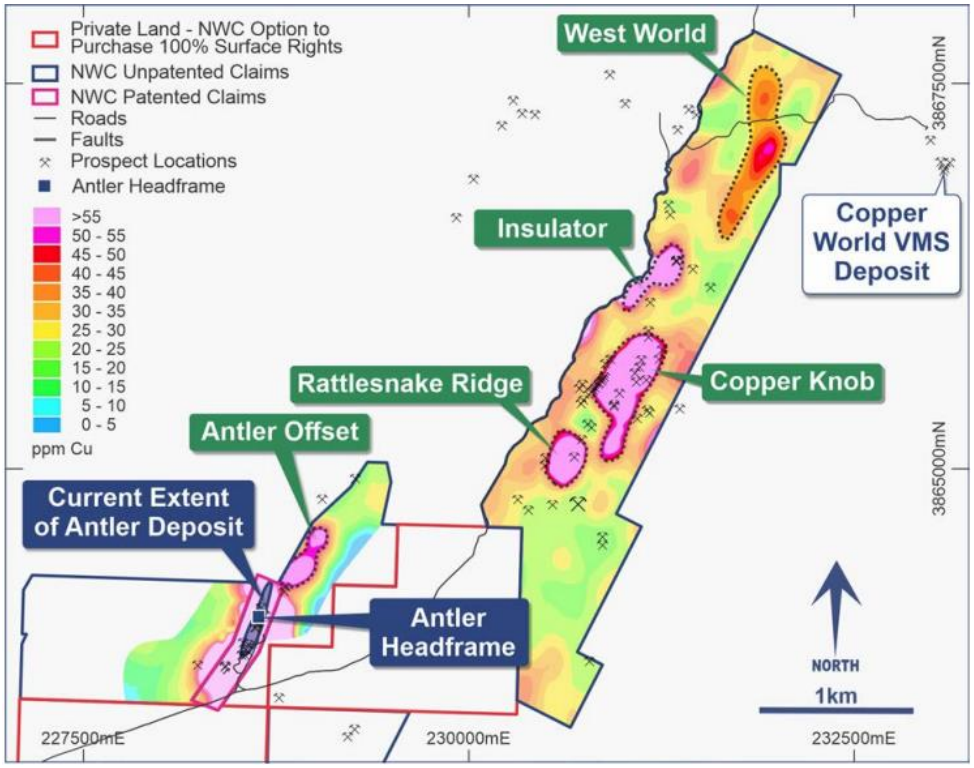
Based on the 2023 Scoping Study and once at steady state production, Antler will generate LOM average pre-tax free cash flows of US$153M annum, generating a pre-tax $NPV_{7\%}$ of US$835M and IRR of 40%. This scenario assumes pre-production capital expenditure of US$252M and sustaining capital of US$70M over LOM. All-In-Sustaining-Cost, including Mining, Processing and G&A is estimated at US$96/t ore. C1 Cost of copper equivalent ore is US$1.68/lb. By-product value (Zn, Pb, Ag, Au) is estimated to exceed raw production costs, resulting in an inverse C1 Cu Cost net By-products of US$-0.50/lb Cu.

Project Upside

NWC's tenement 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. Drilling resumed at regional targets in October 2023.

Regional discovery upside

Figure 45: Antler copper soil geochemistry results.



Source: NWC

NexGen Energy (NXG)

Rook I

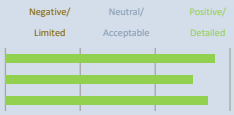
Analyst: George Ross

SPEC BUY

Current Price	$9.00
Valuation	$11.87

Ticker:	ASX:NXG, NYSE:NXE, TSX,NXE
Sector:	Metals & Mining

ESG Ratings:



Key Financials

Shares on Issue (m):	**491.4**
Market Cap ($m):	**4,422.2**
Cash Est. ($m)	417.6
Debt Est. ($m)	213.3
Enterprise Value ($m):	**4,217.9**

52 wk High/Low:	**$10.00**	**$5.16**
12m Av Daily Vol (m):	**0.1**	

Projects	**Stage**
Rook I	Feasibility

Mineral Resource	**Mt**	**U308%**	**kt U3O8**
Arrow			
Measured	2.2	4.40%	95.0
Indicated	1.6	1.40%	21.4
Inferred	4.4	0.80%	36.5
Total	8.2	1.90%	152.9

Ore Reserves	**Mt**	**U308%**	**Mlb**
Arrow			
Proven	-	-	-
Probable	4.6	2.37%	108.4
Total	4.6	2.37%	108.4

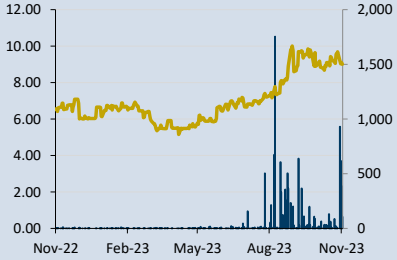
Cashflows	**2022**	**2023**
Operating Cashflow (C$m)	-21.0	-24.0
Investing Cashflow (C$m)	-49.6	-75.4
Financing Cashflow (C$m)	206.5	23.7
Cash Balance (C$m)	219.7	146.3

Directors & Management:

Christopher McFadden	Non-Exec Chairman
Leigh Curyer	President / CEO
Bradley Wall	Executive Director
Warren Gilman	Non-Executive Director
Karri Howlett	Non-Executive Director
Richard Patricio	Non-Executive Director
Trevor Thiele	Non-Executive Director
Sybil Veenman	Non-Executive Director
Don Roberts	Non-Executive Director

Substantial Shareholders:	**%**
Affiliates of CEF Holdings Limited	19.5%
Mega Uranium Ltd.	4.1%

Share Price and Trading Volumes



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 U_3O_8 in yellowcake product over its first five years of operation.

Overview

Arrow: Arrow style mineralisation is characterised by hydrothermal uraninite veining within steeply dipping shears and faults, with an average width of 60m. The Arrow deposit hosts a Resource of 8.15Mt grading 1.87% U_3O_8, including a high-grade component reported at 497Kt grading 15.9% U_3O_8.

Rook I Development: The currently proposed operation will mine and process approximately 450ktpa of Arrow Deposit ore. Under the currently proposed mine schedule head grades into the plan will range from 1.5-3% U_3O_8. Vat leach processing will be used to produce a saleable yellowcake product.

Permitting: Following detailed regulatory and public consultation and review, Saskatchewan's Ministry of environment has approved the Rook I project, enabling the start of early stage works. Federal level approvals are underway.

Elite ESG: NXG strive to achieve 'elite' performance in all aspects of the business' activities including ESG performance. NXG scores highly with Argonaut's Commitment, Industry and Reporting ESG framework of ratings.

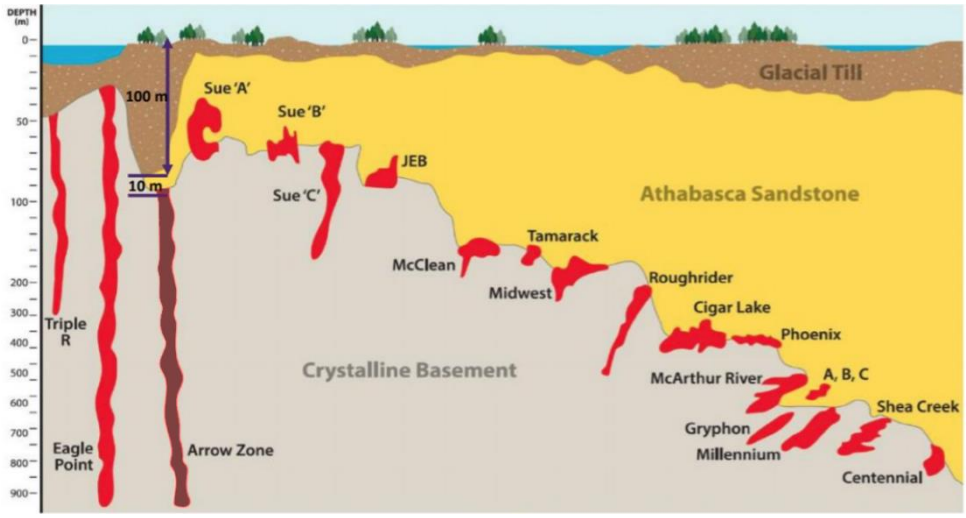
Exploration Upside: Arrow remains open along strike and at depth. Potential exists to discover a quiver of Arrows within NXG's prospective exploration tenure.

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 46).

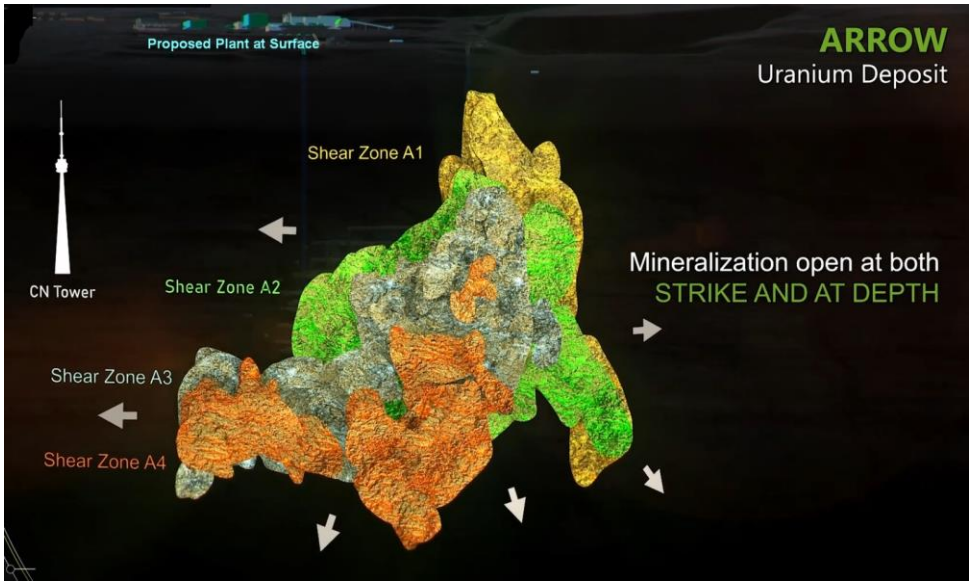
Figure 46: Schematic section with setting of different uranium deposits within the Athabasca basin area. Note non-linear vertical depth scale.



Source: Argonaut after NexGen Energy

Arrow is a bit different to most other Athabasca Basin deposits

Figure 47: Arrow deposit Resource model with individual shear zone domains (coloured). Relative size of the CN Tower (Toronto) shown for scale.



Source: NXG

The deposit remains open along strike and at depth

Proposed Development

The Rook I feasibility study was released in 2021

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 U_3O_8 from Mineral Reserves totalling 4.58Mt grading 2.37% U_3O_8.

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.

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.

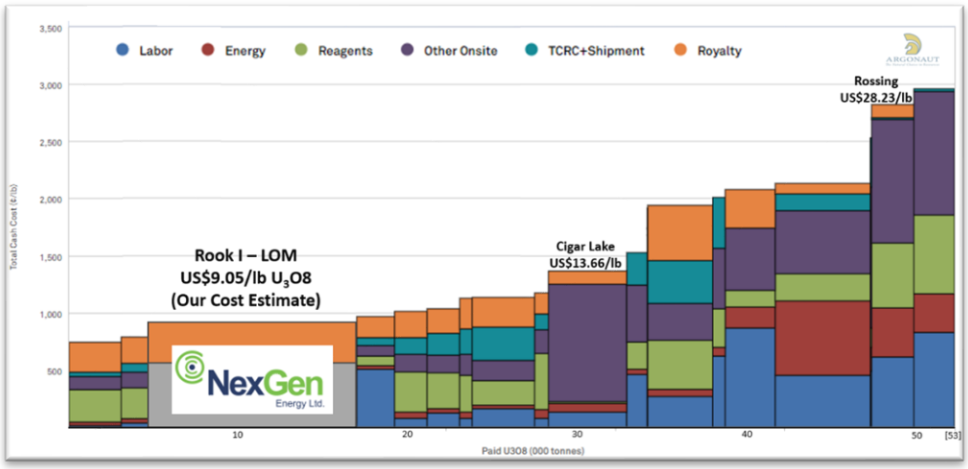
Mine design and methods have been selected to reduce worker exposure to physical hazards and radiation. The mine will utilise a high degree of equipment mechanisation and remote operating capability.

Operating Costs

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

We derive a 'Total Cost' of US$9.05/lb by adding revenue royalties to our C1 costs. Figure 48 compares Rook I's production output and Total Cost with major producing peers (data sourced from S&P Global). Rook I's unit costs compare favourably with other global producers, especially when also considering output tonnage (x-axis).

Figure 48: Uranium production cost curve (per pound) for ~69% of global U_3O_8 plus Argonaut's Rook I LOM cost estimate based on a $US50/lb U_3O_8.



Source: Argonaut after S&P Global

Underground Tailings Management

The planned UGTMF is considered best in class

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 structural failure. The crystalline host rock has lower hydrological conductivity, ensuring radioactive tailings are isolated from regional groundwater aquifers.

Permitting

Permitting advancing

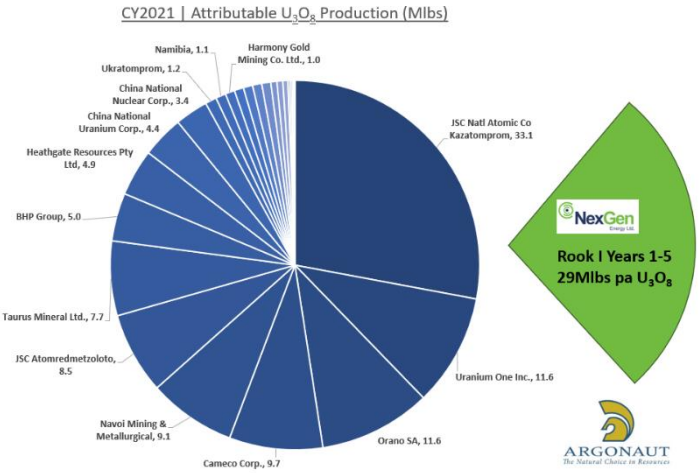
Following finalisation technical review by the Saskatchewan Ministry of Environment finalised and subsequent public review period, the Rook I has been granted provincial Ministerial Approval. Completion of this permitting enables NXG to proceed with early-stage development activities. Federal approvals are underway.

ESG

Elite ESG credentials

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.

Figure 49: CY2021 company attributable U_3O_8 production with Rook I potential annual production for Years 1-5 of production. Source: Argonaut



Source: Argonaut Research

Valuation

Using a US$60/lb U_3O_8 Argonaut estimates a Rook I project value equivalent to A$5.6B

Our present-day Rook I Project NPV exceeds A$5.6B, equivalent to ~A$11.61 per share. Argonaut's valuation is based on a discounted post-tax cash flow model of Rook I using modified inputs from NXG's 2021 Arrow Feasibility Study. A real, after-tax discount rate of 8% is used for net present value estimation. A flat US$60/lb U_3O_8 price and 0.75 USD:CAD exchange rate were applied to the life of project.

Northern Minerals (NTU)

Browns Range

Analyst: George Ross

SPEC BUY

Current Price	$0.032
Valuation	$0.064

Ticker:		**NTU**
Sector:		**Metals & Mining**
Shares on Issue (m):		**5,915.3**
Market Cap ($m):		**189.3**
Cash Est. ($m)		29.7
Debt Est. ($m)		0.0
Enterprise Value ($m):		**159.6**
52 wk High/Low:	**$0.05**	**$0.03**
12m Av Daily Vol (m):		**1.7**

Projects	**Stage**
Browns Range	Definitive Feasibility Study

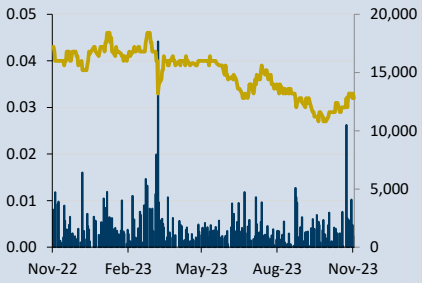
Mineral Resource	**Mt**	**TREO (%)**	**TREO (kt)**
Browns Range	10.8	0.76%	82.1

Cashflows	**2022**	**2023**
Operating Cashflow	-16.9	-14.1
Investing Cashflow	-0.5	0.7
Financing Cashflow	0.3	22.2
Cash Balance	2.9	11.7

Directors & Management:	
Nick Curtis	Executive Chairman
Shane Hartwig	Finance Director
Bin Cai	Executive Director
Adam Handley	Non-Executive Director
Liangbing Yu	Non-Executive Director

Substantial Shareholders:	**%**
Tuxiao Funds Pte Ltd	9.5%
Vastness Investment Group	7.4%

Share Price Graph and Trading Volumes



Quick Read

The Browns Range rare earth element (REE) project is located in northern Western Australia, near the Northern Territory border. The unusual xenotime mineralisation 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

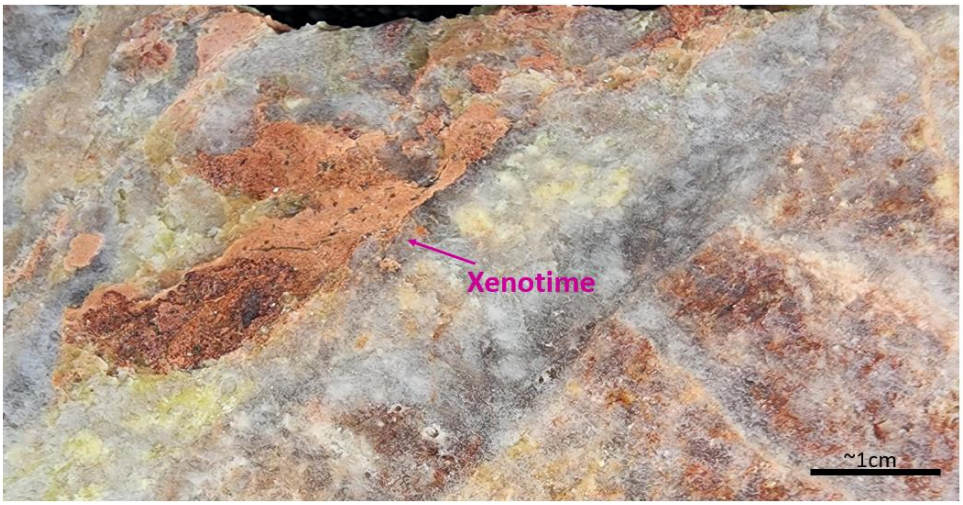
Location & Tenure

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^2, 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

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 a MRE of 6.44Mt grading 0.96% TREO. 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.

Figure 50: Xenotime mineralisation in drill core (Salmon pink colour).



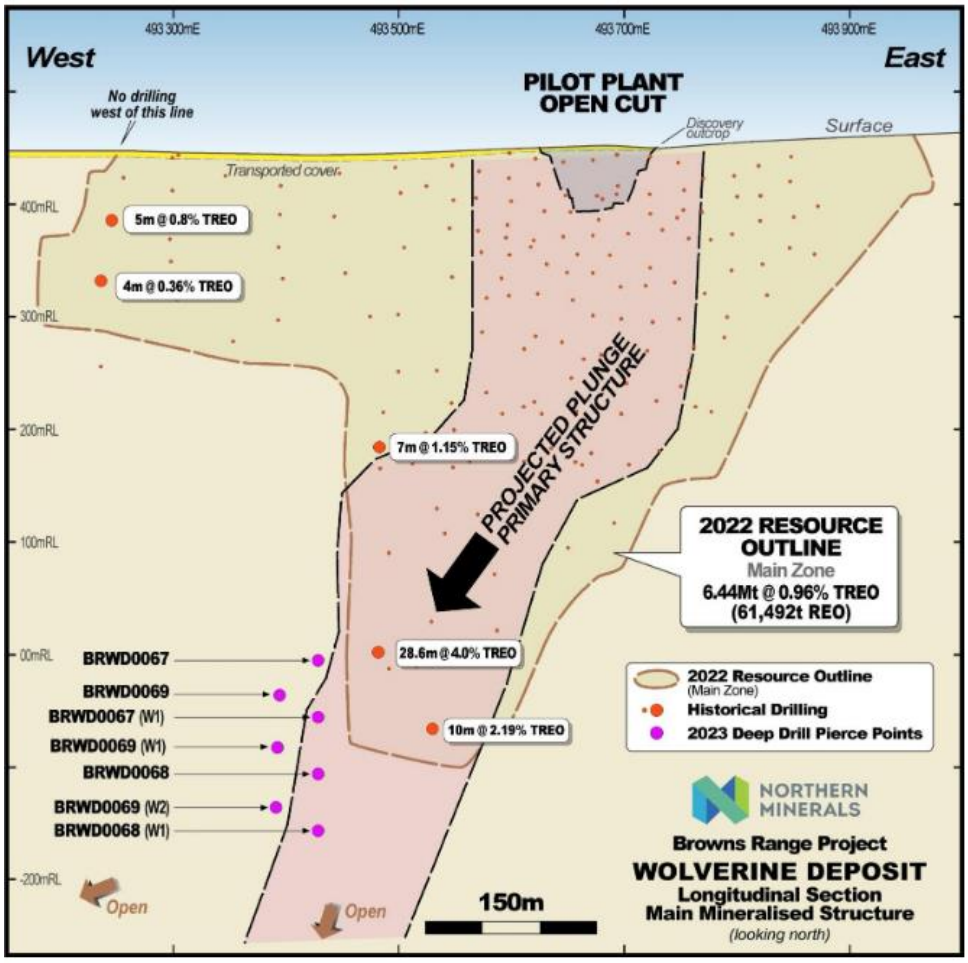
Source: Argonaut

Wolverine is a structurally controlled, hydrothermal vein-breccia system. The deposit has a known strike length of 650 meters, with mineralised widths reaching up to 30 meters and a dip/plunge length of over 550 meters. Within the overall mineralisation envelope, the highest grade of mineralisation 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 MRE is likely.

Wolverine extends at least 550m below surface

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 51: Wolverine deposit long section.



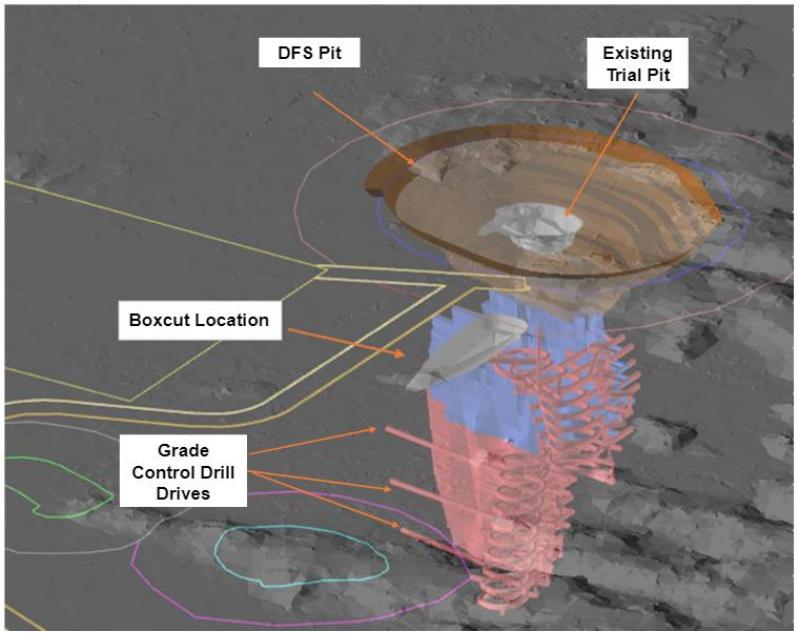
Source: NTU

Deep drilling results indicate the central high grade shoot continues with depth

Rescoped Browns Range Strategy

Following the 2022 appointment of Executive Chairman Nick Curtis, a strategic review of the Brown's Range Project 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.

Figure 52: Preliminary Wolverine mine design.

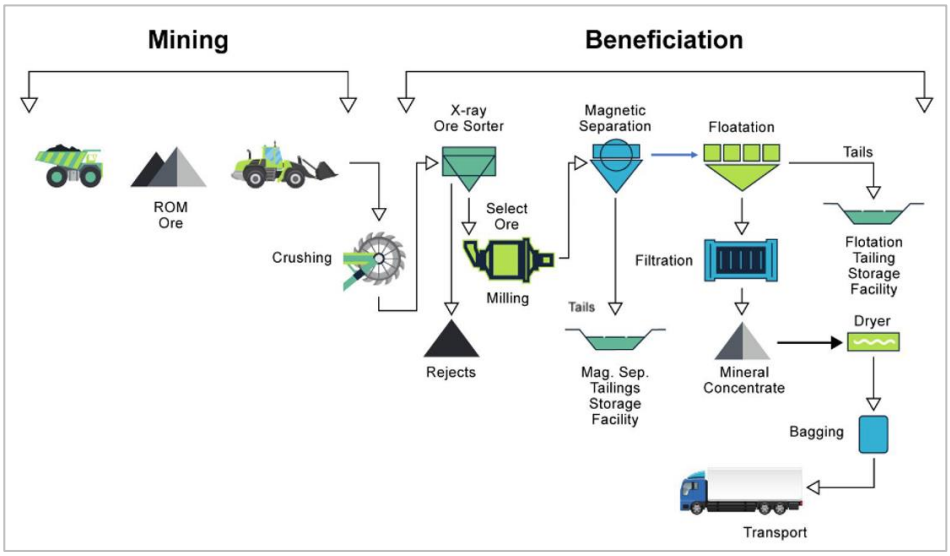


Source: NTU

NTU is pursuing a revised strategy that reduces technical risk

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 53). A particular benefit of the deal is that NTU is insulated from downstream processing risk, which will be ILU's responsibility.

Figure 53: Proposed NTU Browns Range operational process flowsheet.



Source: NTU

NTU plans to produce a mineral concentrate with processing to be completed Iluka's Enabba refinery

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 open-cut 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.

NTU aims to complete the DFS for the Wolverine Project by the end of CY2023. Following the completion of the DFS, the company targets reaching the Final Investment Decision (FID) in the first quarter of CY2024. With these milestones in place, the first production at the Browns Range Project is anticipated to occur in 2026.

Iluka Strategic Partnership

Strategic partnership with Iluka key to future success

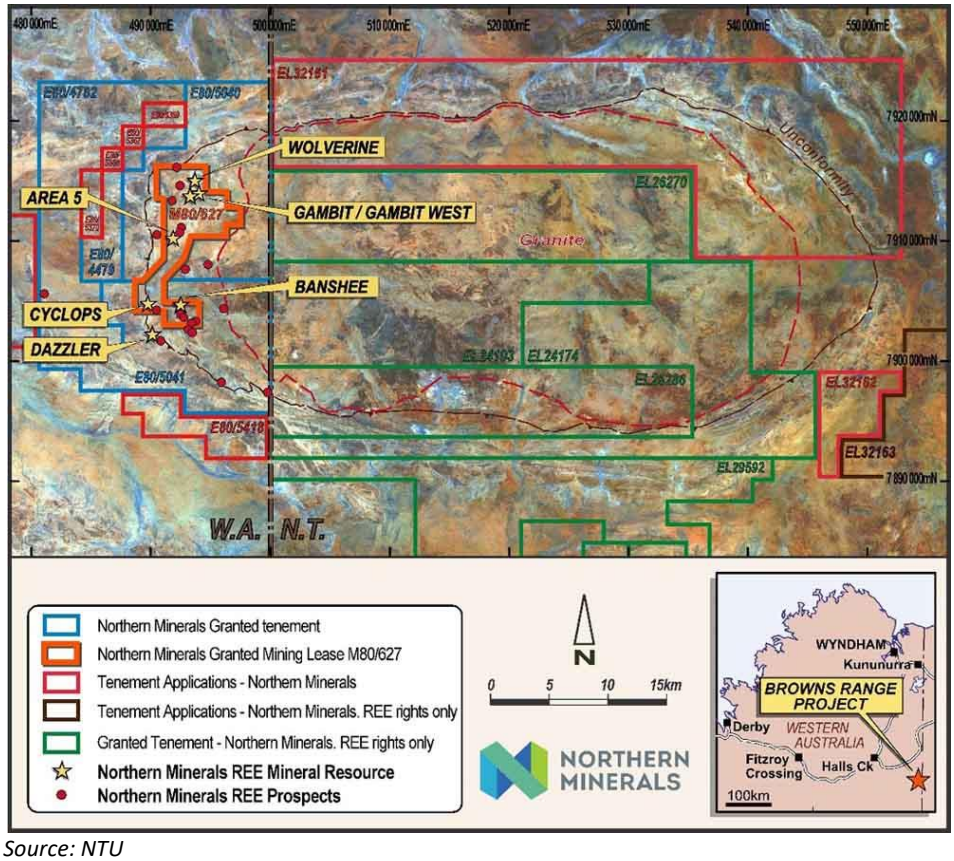
Following ramp-up, NTU has entered into an agreement to supply Iluka (ILU) with up to 5,500 tonnes of Browns Range total rare earth oxides in concentrate annually. According to the agreement, NTU is obligated to sell and deliver 100% of the product produced to Iluka. Additionally, ILU holds the right of first refusal for any excess material 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 54: NTU's combined WA and NT tenure portfolio.

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



Source: NTU

NOT COVERED

Current Price $0.39

Ticker:	**PEK**
Sector:	**Metals & Mining**

Key Financials	
Shares on Issue (m):	**264.6**
Market Cap ($m):	**101.9**
Cash Est. ($m)	21.1
Debt Est. ($m)	0.0
Enterprise Value ($m):	**80.7**
52 wk High/Low:	**$0.67** **$0.35**
12m Av Daily Vol (m):	**0.3**

Projects	**Stage**
Ngualla	Bankable Feasibility Study

Mineral Resource	**Mt**	**TREO (%)**	**TREO (kt)**
Ngualla	214.4	2.15%	4,620.0

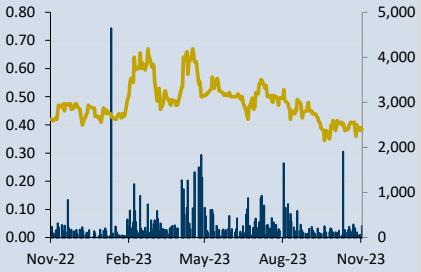
Ore Reserve	**Mt**	**TREO (%)**	**TREO (kt)**
Ngualla	18.5	4.80%	887.0

Cashflows	**2022**	**2023**
Operating Cashflow	-12.1	-9.2
Investing Cashflow	-0.2	-0.4
Financing Cashflow	19.2	25.9
Cash Balance	9.5	25.9

Directors & Management:	
Russell Scrimshaw	Executive Chairman
Bardin Davis	CEO
Abdullah Mwinyi	Non-Executive Director
Shasha Lu	Non-Executive Director
Ian Chambers	Non-Executive Director
Nick Bowen	Non-Executive Director
Hannah Badenach	Non-Executive Director

Substantial Shareholders:	**%**
Shenghe Resources	19.9%

Share Price Graph and Trading Volumes



Peak Rare Earths (PEK)

Ngualla

Analyst: George Ross

Quick Read

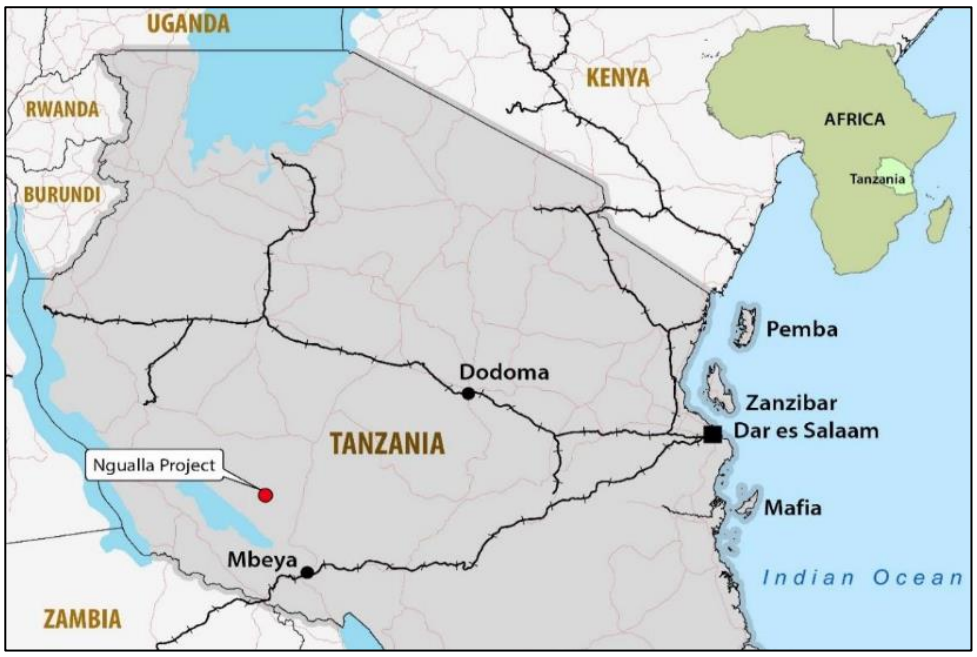
Ngualla stands as one of the largest and highest grade undeveloped NdPr deposits, with a defined Ore Reserve of 18.5Mt at 4.80% REO (887kt contained REO). The Project entails the construction of a mine, mill, concentrator, community projects and associated infrastructure. In April 2023 PEK and the Tanzanian Government formally executed a Framework Agreement for development of Ngualla with Peak Rare Earths maintaining an 84% interest in the project. The Ngualla Special Mining License has an initial 33 year mine life with an ability to extend.

Overview

Location & Tenure

The world class Ngualla Rare Earth Project is located approximately 150km from the regional city of Mbeya, Tanzania.

Figure 55: Ngualla Project location.



Source: PEK

Background

Ngualla was discovered in 2010 and its Maiden Resource Estimate published in 2012. Extensive technical test work programs followed, culminating in a PFS in 2014 and BFS in 2017. Further progression of the project was fouled by the 2018 introduction of mining reforms introduced under then President, John Magufuli. These changes to legislation included the introduction of a 16% Tanzanian Government free-carried-interest and a ban on concentrates and unprocessed mineral exports. PEK had previously planned to export

beneficiated ore to a planned rare earth separation refinery to be built in Tees Valley, North-East England.

Following a protracted period of lobbying and negotiation, execution of Framework Agreement was signed in April 2023. Grant of these permits enables the project to move forward. As part of its commitments, PEK will commission an independent study into the feasibility of a Tanzanian rare earth refinery.

Partnerships

Shenghe a new partner to PEK

In February 2022, Shenghe Resources a US$3.8B Shanghai listed rare earths company acquired a 19.9% interest in PEK, paying a 25% premium to the Company's previous closing price. Shenghe has mining, smelting, separating, and processing capacity, whilst also bringing practical downstream expertise and demand for concentrate. In October, PEK reported it had signed an offtake and strategic cooperation MOU with Shenghe. The deal provides for offtake, technical co-operation and potential project level investment by Shenghe. Shenghue is already a strategic partner to MP Minerals, owner of the Mountain Pass (US) REE operation and provided financial support in the form of a prepayment to support restart.

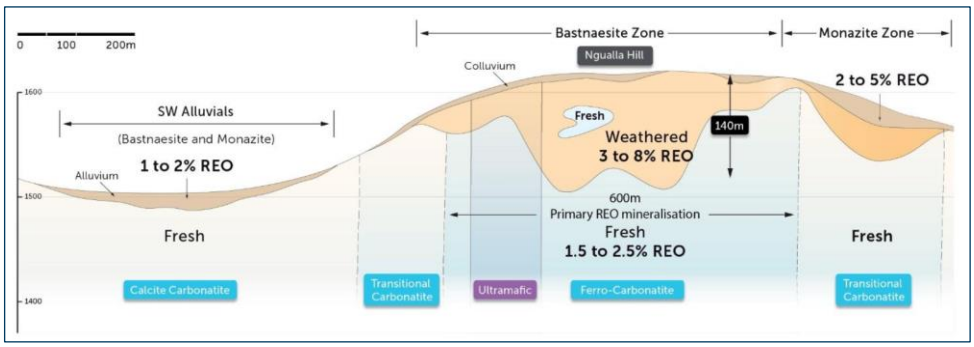
As part of Framework Agreement, Tanzanian Government non-dilutable 16% Free-Carried-Interest in the Project. The Tanzanian Mining Act includes provisions to enable the Government to purchase up to an additional 34% active interest in mining projects.

Deposit and Resources

A spectacular rare earth deposit

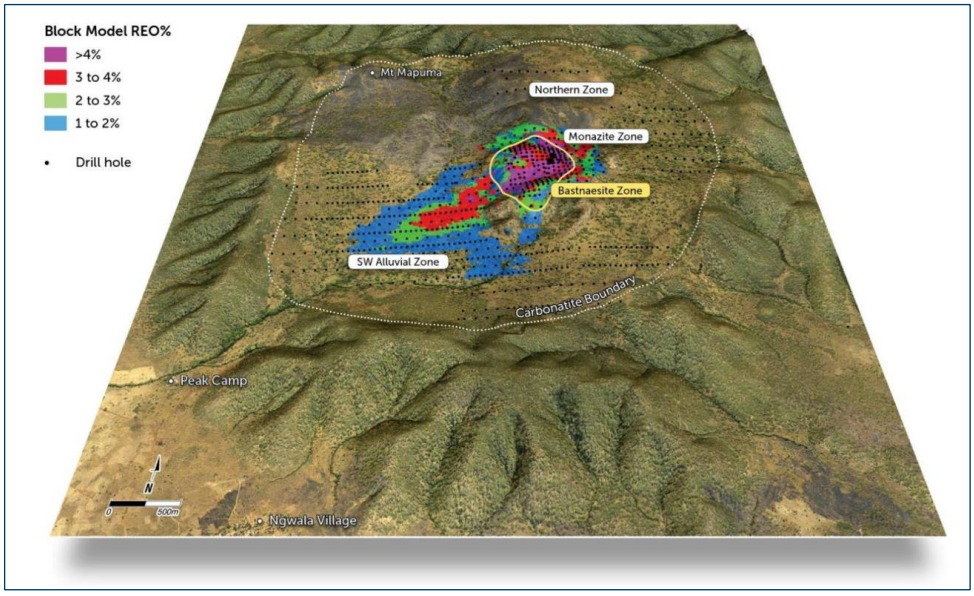
The Ngualla deposit is hosted within a carbonatite complex. Rare earth mineralisation is associated with both bastnaesite and monazite. The ferro-carbonate core of the deposit manifests as a topographic high with a deep zone of weathering up to 140m depth. Primary ferro-carbonate rock in the Bastnaesite Zone grades 1-2% total rare earth oxides (TREO). Weathering induced near surface oxidation and leaching of soluble minerals within the Bastnasite Zone has resulted in enhancement of grade to 3-8% TREO. Oxidised material in the adjacent Monazite Zone grades between 2-5% TREO and remobilised alluvial deposits of bastnaesite and monazite grade between 1-2% TREO in the south-west.

Figure 56: Ngualla deposit schematic cross section with geological domains.



Source: PEK

Figure 57: Ngualla rare earth deposit block model relative to topography.



Source: PEK

Mining to come first with potential to go downstream

Scope of Development

On the 24th of October 2022, PEK reported results for an updated Ngualla BFS. The study outlines initially developing Ngualla as a standalone mine, producing a rare earth concentrate for sale to third parties. The October signed Shenghe MOU includes offtake arrangements covering 75-100% of production for an initial 7-year period. Advancement of potential downstream processing facilities will likely be delayed until an independent technical study to assess the viability of a Tanzanian mixed rare earth carbonate plant is complete.

Electing to initially develop just the mine without downstream processing facilities reduces immediate upfront capital expenditure, associated funding requirements, and shifts processing risk to recipients of the concentrate. Product sale revenue will however take a hit, with lower metal payability received for the unrefined mineral concentrate (~45-55% compared with 60-80% for MREC).

Preliminary Mining Operation

The initial Ngualla mining operation is expected to cost in the order of US$321M, including EPCM and Owners Costs and Contingency. The mine will extract 18Mt of 5.4% TREO ore over an initial 24-year mine life. A 1.2Mtpa processing plant will initially crush and grind ore to a 53µm. This material will then pass through a flotation circuit to separate barite from the main process stream. The barite circuit tails will be grinded to 38µm and then fed into a second flotation circuit for concentration of rare earth minerals. Following thickening and filtering, concentrate will be bulk bagged for shipment. The mining operation is expected to produce ~36ktpa of 45% TREO concentrate per annum. With product transported to Dar es Salaam Port by road for international shipping.

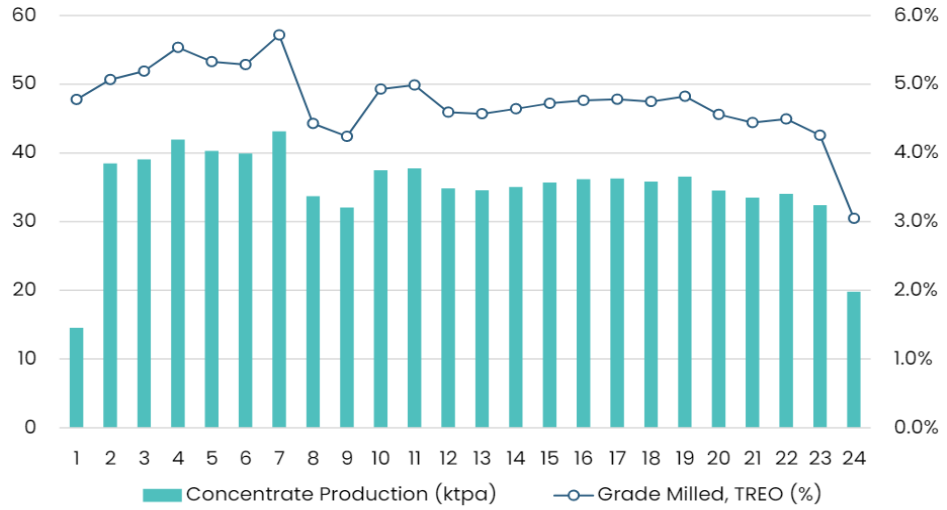
The initial 1.2Mtpa operation is expected to produce 36ktpa of 45% TREO mineral concentrate per annum

Downstream Development Potential

As we have previously discussed, PEK will examine the potential for downstream processing within Tanzania or abroad. If the commissioned Independent Tanzanian

Downstream study concludes it is unfeasible to operate a rare earth oxide refinery within Tanzania, PEK could advance plans for a refinery at the company's UK Tees Valley site.

Figure 58: PEK's Ngualla mine production schedule.



Source: PEK

PEK models an initial 24 year mine life

Niobium, Tantalum, Phosphate and Fluorite

Accessory minerals could provide parallel revenue streams

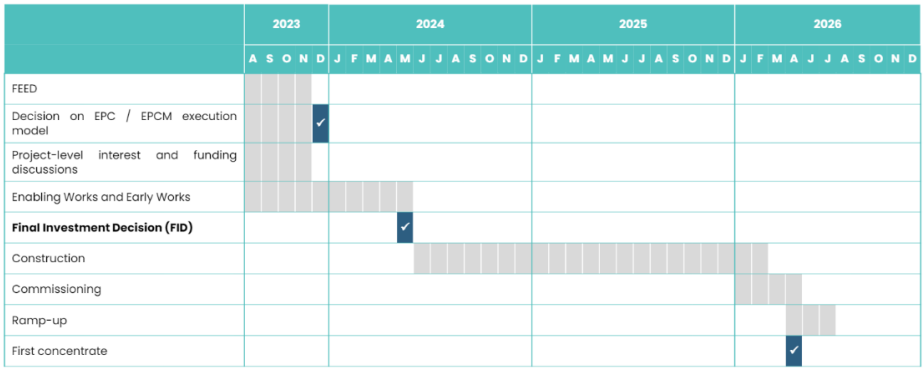
Beyond of the rare earth enriched core, the Ngualla carbonatite hosts extensive high-grade occurrences of niobium, tantalum, phosphate and fluorite. These deposits provide an additional source of value for the project which could be realised through separate processing operations. In late 2023, PEK was drill targeting phosphate and niobium in the Northern and Breccia zones.

Project Valuation

PEK has estimated a life of mine operating cost of US$5.8/kg TREO or US$93M per annum. The project is expected to generate annual revenues of US$538M per annum based on a LOM US$232/kg NdPr oxide price and 61% payability. PEK estimates an $NPV_{8\%}$ of US$1.48B and post-tax IRR of 37%. Using a more moderate US$138/kg Nd-Pr price the project generates an $NPV_{8\%}$ of US$539M with an IRR of 22.5%.

PEK estimates a post-tax NPV of US$539M at a US$138/kg Nd-Pr price

Figure 59: Ngualla development timeline.



Source: PEK

NOT COVERED

Current Price $0.17

Ticker:	**LSE: SOLG**
Sector:	**Metals & Mining**
Shares on Issue (m):	**3,001**
Market Cap ($m):	**498.9**
Cash Est. ($m)	70.3
Debt Est. ($m)	0.0
Enterprise Value ($m):	**428.6**
52 wk High/Low:	**$0.22** **$0.08**
12m Av Daily Vol (m):	**4.4**

Projects	**Stage**
Cascabel	Prefeasibility
Porvenir	Resource Development

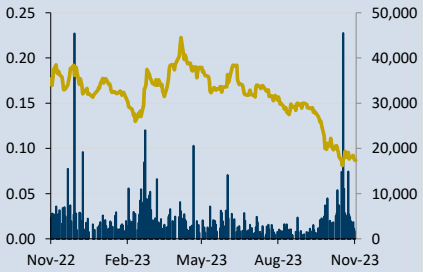
Mineral Resource	**Mt**	**CuEq (%)**	**CuEq (kt)**
Cascabel	3192	0.50%	16,018
Porvenir	397	0.44%	1,747

Cashflows	**2022**	**2023**
Operating Cashflow	-8.3	-28.0
Investing Cashflow	-53.9	-36.5
Financing Cashflow	-0.4	69.9
Cash Balance	21.5	25.5

Directors & Management:	
Liam Twigger	Chairperson
Scott Caldwell	CEO
Nicholas Mather	Non-Executive Director
James Clare	Non-Executive Director
Maria Amparo Alban	Non-Executive Director
Dan Vujcic	CEO

Substantial Shareholders:	**%**
BHP	10.4%
Newcrest	10.3%
DGR Global	6.8%
Jiangxi Copper	6.0%
Solgold Canada Inc.	5.2%
Maxit Capital LP	5.1%

Share Price Graph and Trading Volumes



SolGold (LON:SOLG)

Cascabel

Analyst: George Ross

Quick Read

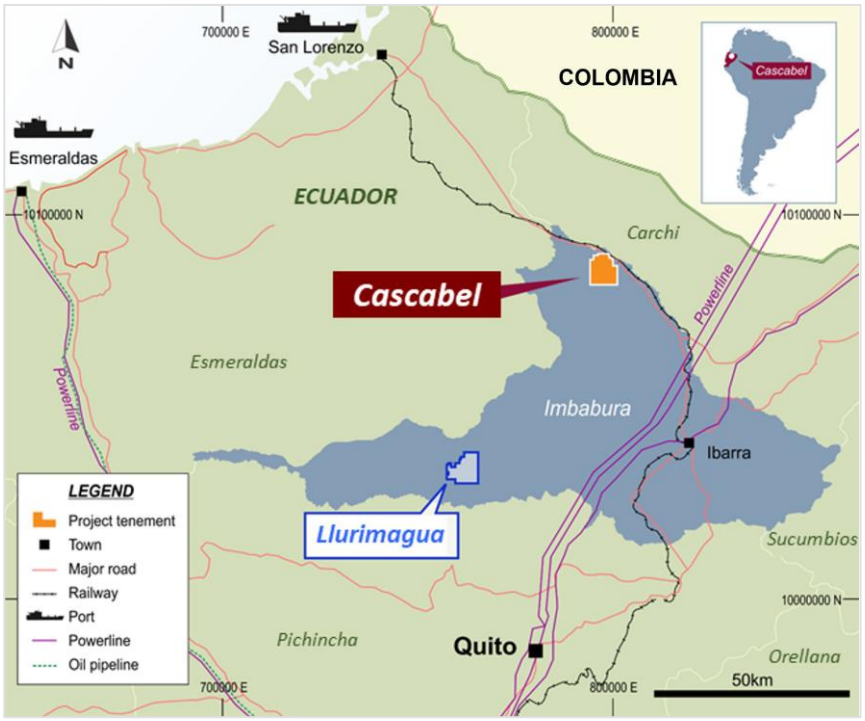
The Cascabel Project is regarded as one of the world's largest high-quality copper gold porphyry systems. The main Alpala deposit is estimated to contain 10.2Mt of copper, 23.6Moz of gold and 102.8Moz of silver. The 2022 Cascabel PFS examines a large-scale block caving operation. A revised 'Phased Approach' PFS will examine an alternative route to development with an initial sub-level caving operation to be trailed by block caving. This revised study is expected to reduce the capital expenditure (and funding) hurdle for initial development.

Overview

Location & Environment

SOLG's 100% owned flagship Cascabel development project is located within the Imbabura province, 3 hours drive from Ecuador's capital Quito and 180km from the Esmeraldas deep water port. Cascabel is hosted in mountainous terrain with elevations ranging from 600m-1,800m. The site receives ~2.6 metres of rainfall annually, mostly between the months of October and May. Most areas of the project are either rainforest or have otherwise been cleared for basic agriculture. It is important to note that forested areas contained within the boundaries of the mining concession are not protected. The proposed block caving of Alpala will ultimately lead to subsidence above the deposit.

Figure 60: Location map displaying Cascabel project area and regional infrastructure.



Source: SOLG

Permitting

Mining concession recently renewed

In July 2023, SOLG received a 25-year term renewal for the Cascabel project mining concession, securing the claim until at least 2048 with provisions for further renewal. The renewal Term Sheet is for a 33-year period including provision for the construction period indicated in the 2021 PFS. The Cascabel concession covers 50 square kilometres and includes both the Alpala deposit and proposed surface infrastructure. The Cascabel project's Environmental Impact Assessment is likely to be granted by December 2023.

Regional Geology

The Cascabel project centres around the Eocene aged Alpala copper-gold porphyry system. The mineralised Alpala porphyry complex is intruded into Cretaceous through Tertiary aged basalt and sedimentary rocks, preserved within the Cordillera Occidental (Western Cordillera) of the Ecuadorian Andes. The mineralised system is partially overprinted by later stage intrusives.

Alpala Discovery

Alpala is a true porphyry giant

During stream mapping of the broader Cascabel project area, sulphide enriched quartz B-Type veining was identified in a gully north of Santa Cecilia. The discovery drill hole CSD-13-005 ("Cascabel - Hole 5") was started on November 12th, 2013. The hole returned a mineralised interval of 1,358m grading 0.61% Cu, 0.53g/t Au (0.94% CuEq). To date, 196 holes for 245km of drilling have been completed at Alpala with mineralisation defined over a 2.4km x 1.2km area and 2.8km in the vertical dimension, although mineralisation remains open at depth. Soil geochemistry has proven to be an important exploration tool at Cascabel. Coincident molybdenum highs, manganese lows and Cu/Zn ratio highs define porphyry centres.

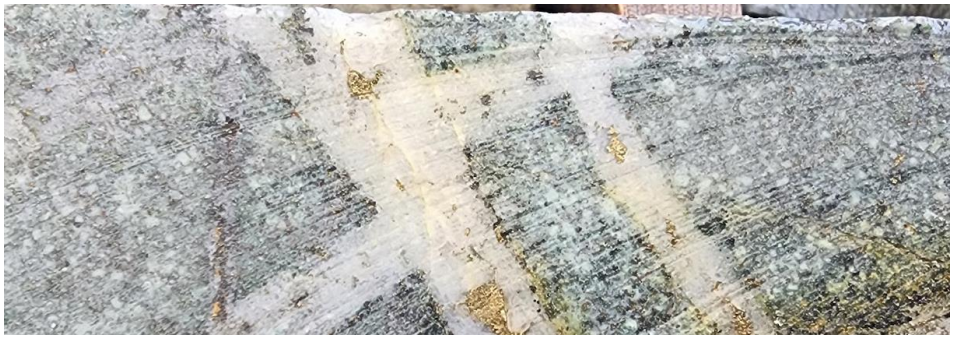
Table 12: Examples of significant drill hole results from Alpala/Cascabel.

Spectacular drill hole intervals and grades underpin the Alpala's MRE

Hole ID	Interval m	Cu %	Au g/t	Cu% Eq	m% CuEq
Cascabel - Hole 5	1358	0.61	0.53	0.94	1279
Cascabel - Hole 9	1197	0.63	0.83	1.16	1385
Cascabel - Hole 12	1560	0.59	0.54	0.93	1455
Cascabel - Hole 15R2	1402	0.48	0.34	0.69	974
Cascabel - Hole 16	936	0.75	0.95	1.35	1266
Cascabel - Hole 17	954	0.6	0.52	0.93	884
Cascabel - Hole 18	864	0.57	0.61	0.96	825
Cascabel - Hole 19	1344	0.44	0.28	0.62	829
Cascabel - Hole 21	946	0.67	0.39	0.92	872
Cascabel - Hole 23R	1030	0.59	0.9	1.16	1195

Source: Data reported by SOLG

Figure 61:Photo of Alpala drill core from hole CSD-15-012



Source: Argonaut

Resources

The current Alpala Measured, Indicated and Inferred MRE contains 10.2Mt of copper, 23.6Moz of gold and 102.8Moz of silver. Defined mineralisation is only limited in the vertical domain by the extent of drilling. Once underground development is complete, further drilling is expected to result in vertical expansion of the Resource.

Table 13: Alpala MRE Statement.

Alpala Mineral Resource Statement										
Cut-off grade	Mineral Resource category	Mt	Grade				Contained metal			
			CuEq (%)	Cu (%)	Au (g/t)	Ag (g/t)	CuEq (Mt)	Cu (Mt)	Au (Moz)	Ag (Moz)
0.21%	Measured	1,192	0.72	0.48	0.39	1.37	8.6	5.7	15	52.4
	Indicated	1,470	0.37	0.28	0.14	0.84	5.5	4.2	6.6	39.8
	Measured + Indicated	**2,663**	**0.53**	**0.37**	**0.25**	**1.08**	**14**	**9.9**	**21.7**	**92.2**
	Inferred	544	0.31	0.24	0.11	0.61	1.7	1.3	1.9	10.6
	Planned dilution	5	0	0	0	0	0	0	0	0

Source: SOLG

The Cascabel project also hosts the Tandayama-America MRE which is currently reported as 297Mt grading 0.36%, CuEq. An update to this Resource is expected by the end of the 2023 December quarter.

Study Outcomes

In 2022 SOLG reported outcomes for the Cascabel PFS. The study envisages an initial 26-year mine life, 25Mtpa block caving operation to produce a LOM average of 132ktpa of copper and 358kozpa of gold (212ktpa CuEq). At peak production the production the project would produce 391ktpa of copper and 829kozpa of gold (391ktpa CuEq).

SOLG's Cascabel PFS envisages an initial 26-year mine life

Caved ore would be presented to underground primary crushers and then conveyed to a process plant at surface. Following HPGR and ball milling, milled material would be processed through staged flotation to separate chalcopyrite from pyrite. The chalcopyrite stream would be cleaned for production of a sulphide concentrate, meanwhile, the pyrite stream would be subjected to a cyanide leach/carbon in pulp circuit for extraction of gold and silver. Flotation campaigns completed to date suggests flotation concentrate produced from Cascabel's ore is low in deleterious elements and would be classed as desirable by copper refiners.

At peak production the project is planned to produce 391kt of copper and 829koz of gold annually

The PFS includes provisions for a very large (and expensive) TSF located 200km west of Cascabel. The first stage of the TSF is budgeted at US$309M with a further US$695M in capital expended over LOM.

The existing study includes slurry pipeline and pump infrastructure for transport of concentrate to port.

Initial pre-production capital was estimated at US$2.7B, with further investment of US$2.6B required during production (Table 14). Due to the efficient nature of block caving the project is modelled to achieve an average LOM AISC of US$0.06/lb of copper net gold and silver by-product credits. The base case incorporates average LOM metal prices of US$3.60/lb for copper, US$1,700/oz for gold and US$19.9/oz for silver.

Table 14: Cascabel 2022 PFS itemised capital requirements.

Area	Pre-Production US$M	Post-Production US$M
Mine	900	748
Process plant	465	219
Tailings storage facility	309	695
Port facility	39	15
Surface infrastructure	175	42
Indirect costs	467	113
Contingency	391	304
Total	**2,746**	**2,136**

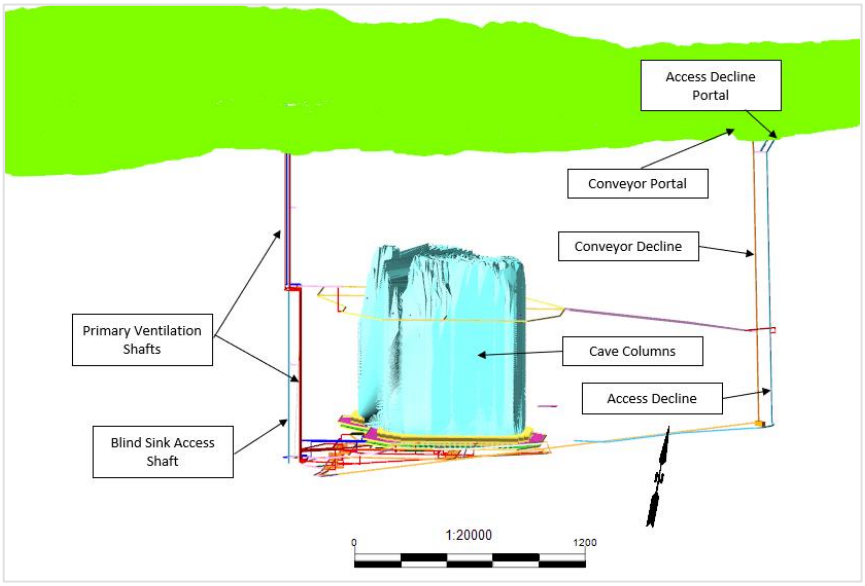
Source: SOLG

Cascabel hosts a Reserve of 558Mt grading 0.58% Cu, 0.52g/t Au, 1.65g/t Ag for 3.26Mt Cu, 9.37Moz Au and 30Moz Ag

The Cascabel PFS Probable Reserve is reported as 558Mt grading 0.58% Cu, 0.52g/t Au, 1.65g/t Ag for 3.26Mt Cu, 9.37Moz Au and 30Moz Ag. During the first 10 years of production mining would target Alpala's high-grade core, averaging a grade of 1.35% CuEq. The Reserve represents only 21% of defined Mineral Resources and 38% of contained metal. Hence, it is expected that additional future capital allocation would achieve extension of mine life.

Under SOLG's model parameters the project generates a base case Post-tax $NPV_{8\%}$ of US$5.24B and a post-production after-tax capital payback of 4.7 years.

Figure 62: Planned Cascabel PFS underground infrastructure.



Source: SOLG

A phased approach to development could reduce the startup capital hurdle

Phased Study Revision

In an effort to reduce the upfront capital requirements of the project, SOLG is completing an updated PFS to evaluate a "phased" approach to development. It is anticipated that the updated PFS will include early-stage sub-level caving targeting higher grade ore zones at beginning of mine life. This approach has the potential to reduce time to first production, lower the initial capital expenditure barrier and provide early positive cashflow to fund development of the higher tonnage block cave. This approach is similar to that executed by Oz Minerals for development of the Carapateena IOCG deposit in South Australia.

Sovereign Metals (SVM)

Kasiya

Analyst: George Ross

SPEC BUY

Current Price	$0.48
Valuation	$0.86

Ticker:	**SVM**
Sector:	**Metals & Mining**

ESG Ratings:

	Negative/ Limited	Neutral/ Acceptable	Positive/ Detailed
Commitment			
Industry			
Reporting			

Key Financials

Shares on Issue (m):	**563.0**
Market Cap ($m):	**270.2**
Cash Est. ($m)	43.0
Debt Est. ($m)	0.0
Enterprise Value ($m):	**227.2**

52 wk High/Low:	**$0.56**	**$0.38**
12m Av Daily Vol (m):		**0.3**

Projects	**Stage**
Kasiya Rutile Project	Prefeasibility

Mineral Resource	**Mt**	**Rut(%)**	**Rut (Mt)**
Kasiya Rutile Project	1,809	1.0	17.9

Ore Reserve	**Mt**	**Rut(%)**	**Rut (Mt)**
Kasiya Rutile Project	538	1.0	5.5

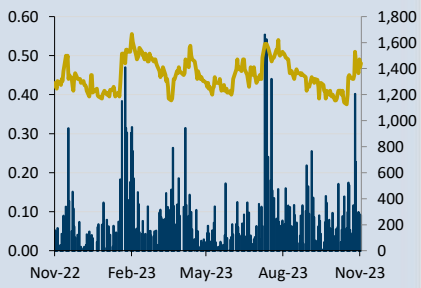
Cashflows	**2022**	**2023**
Operating Cashflow	-10.0	-12.8
Investing Cashflow	-0.3	0.1
Financing Cashflow	21.3	-0.6
Cash Balance	18.9	5.6

Directors:

Ben Stoikovich	Non-Executive Chairman
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



Quick Read

The giant Kasiya rutile and graphite deposit in Malawi hosts an unusual style of mineralisation which yields high quality rutile and graphite. Ore can be mined using low-cost hydraulic 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.

Overview

Rutile & Graphite: Rutile and graphite both have a role in decarbonisation of the economy.

Giant Resource: 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 cut-off).

Natural Cost Advantages: The unusual style of mineralisation enables low-cost mining and processing. High quality rutile and graphite products are expected to be produced at lowest quartile operating costs.

PFS Outcomes: SVM's October 2023 PFS, outlines a development with a 25-year mine life. Initially with 12Mtpa of throughput, scaling to 24Mtpa from Year 6. Average life of mine production is estimated as 222ktpa for rutile and 244ktpa for graphite. The Study defines total Reserves of 538Mt at 1.03% Rutile and 1.66% Graphite. A co-product cost estimate of US$404/t FOB would make Kasiya's graphite concentrate production cost lower than all peers. Capex to first production is estimated at US$597M. SVM's financial model estimates a build date $NPV_{8\%}$ of US$1,605M.

Rio Tinto Backing: On the 17th of July 2023, SVM reported that mining major Rio Tinto (RIO) had made a strategic investment valued at A$40.4M to acquire a 15% shareholding in the company. In our view Rio Tinto's endgame is to become the 100% owner of Kasiya. Rio will be in no rush to make a bid for SVM, so we may not see any corporate activity until after completion of the Kasiya DFS.

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 to be 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 (+180µ /80 mesh) and 29% classed as Jumbo or Super Jumbo.

Rutile deposits don't get any bigger than this

A True Giant

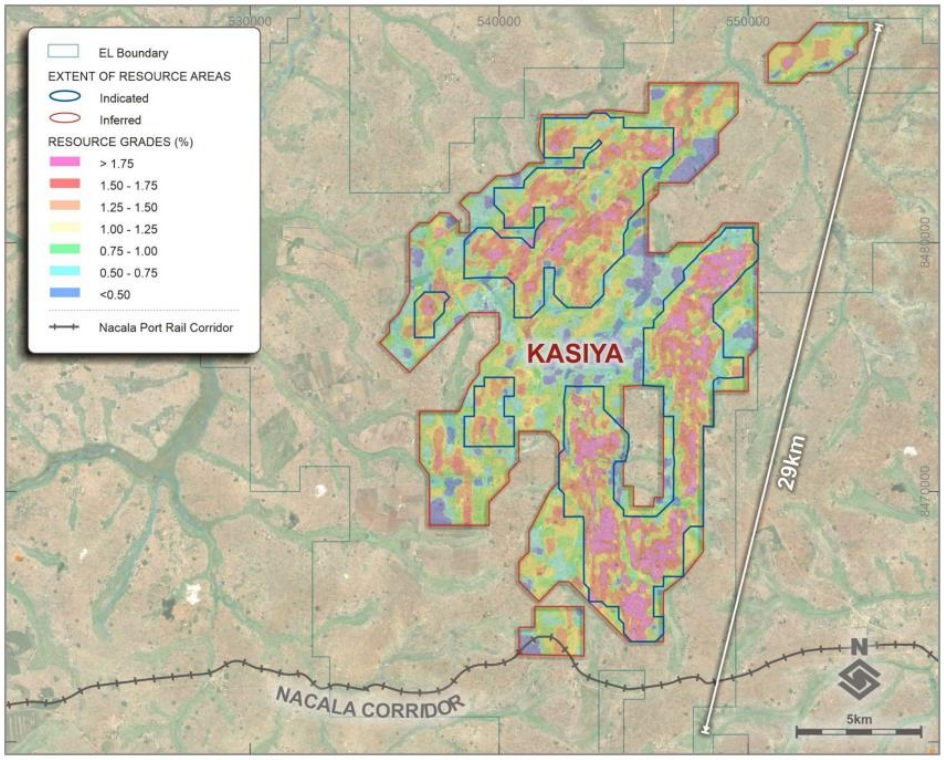
An updated Kasiya Mineral Resource Estimate (MRE) was reported in September 2023. The latest MRE confirmed Kasiya as the world's largest rutile deposit and one of the world's largest graphite deposits (Table 15).

Table 15: Kasiya Latest Resource. Rt = Rutile, TGC = Total Graphite Content.

Kasiya Mineral Resource Estimate at 0.7% Rutile Cut-off (inclusive of Ore Reserves)						
Mineral Resource Category	Material Tonnes (millions)	Rutile (%)	Rutile Tonnes (millions)	Graphite (TGC%)	Graphite Tonnes (millions)	RutEq. Grade* (%)
Indicated	1,200	1.0%	12.2	1.5%	18.0	1.9%
Inferred	609	0.9%	5.7	1.1%	6.5	1.6%
Total	**1,809**	**1.0%**	**17.9**	**1.4%**	**24.4**	**1.8%**

Source: SVM

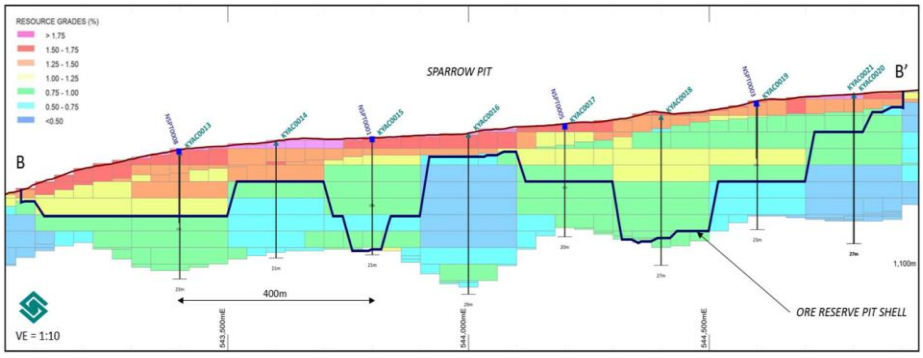
Figure 63: Kasiya MRE with block model rutile grades.



Source: SVM

A graphite coproduct provides additional value which makes Kasiya a standout on the world stage

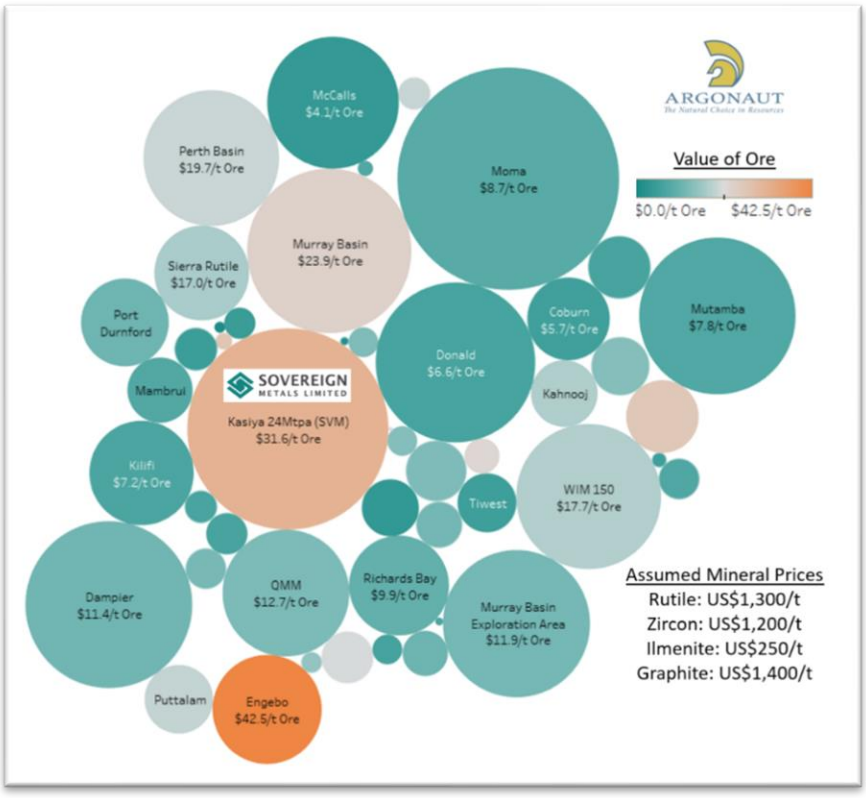
Figure 64: Example cross section of Resource rutile block model grades with planned pit.



Source: SVM

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

Figure 65: Total value of contained minerals within globally significant heavy mineral deposits. Bubbles scaled to total in ground value. Bubbles coloured by average value per tonne of ore. Minerals considered include Rutile, Zircon, Ilmenite and Graphite.



Source: Argonaut with S&P Capital IQ, and Company Data

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

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.

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.

Lower cost graphite production than all peers

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 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 and less expensive than conventional drill and blast.

US$597M upfront capital required for the build

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 $NPV_{8\%}$ of US$1,605M with an IRR of 28% ($NPV_{10\%}$ of US$1,205M).

ESG Credentials

Kasiya has strong ESG credentials. Rutile and graphite are both considered critical minerals for decarbonisation of the economy. The substitution of conventional feedstocks by natural rutile saves energy and reduces pigment manufacturing emissions by 35%. Graphite is used as anode for many types of batteries. The transition to electric vehicles and increased utilisation of stationary battery storage is expected to drive growth in graphite demand over the coming decades.

Rutile and graphite products produced at Kasiya will have a low carbon emission footprint compared to peers. Gravity and flotation-based processing techniques are low energy intensity methods of mineral concentration, further limiting emissions. Progressive rehabilitation will ensure pits are filled, and land returned to agriculture use.

Valuation

Build date $NPV_{10\%}$ of US$1,098M, and present-day valuation of US$785M

Argonaut's development for Kasiya estimates a Build Date Post-Tax $NPV_{10\%}$ of US$1,098M, equivalent to A$1,568M at a 0.70 AUD:USD exchange rate. Assuming commencement of construction from CY2026 we estimate a 100% ownership Present Day Post-Tax $NPV_{10\%}$ of US$785M (A$1,122M). Our model includes a 6-month production ramp up from early CY2028.

The greatest hurdle to development will be funding of initial capital requirements. In our view Rio Tinto's endgame is to become the 100% owner of Kasiya. Rio will be in no rush to make a bid for SVM, so we may not see any corporate activity until after completion of the Kasiya DFS. Alternatively, if SVM's PFS numbers meet threshold expectations, RIO may wish to take executive control of the project, catalysing a takeover offer of SVM in the short to medium term.

SPEC BUY

Current Price	$0.03
Valuation	$0.13

Ticker:	**AUC**
Sector:	**Metals & Mining**
Shares on Issue (m):	**2,296.1**
Market Cap ($m):	**67.7**
Cash Est. ($m)	4.7
Debt Est. ($m)	0.0
Enterprise Value ($m):	**63.0**
52 wk High/Low:	**$0.06** **$0.03**
12m Av Daily Vol (m):	**2.5**

Projects	**Stage**
Katanning	Definitive Feasibility Study

Mineral Resource	**Mt**	**Au (g/t)**	**Au (Moz)**
Katanning	88.9	1.06	3.0

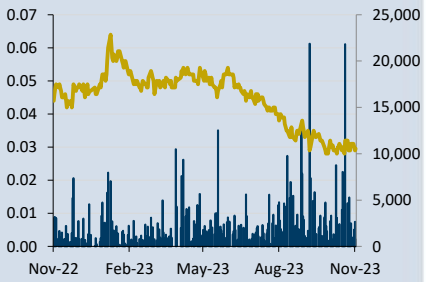
Ore Reserve	**Mt**	**Au (g/t)**	**Au (Moz)**
Katanning	32.0	1.25	1.3

Cashflows	**2022**	**2023**
Operating Cashflow	-1.1	-2.2
Investing Cashflow	-11.0	-10.6
Financing Cashflow	15.6	11.3
Cash Balance	10.9	9.4

Directors:	
Richard Lockwood	Interim Chairman
Dr Matthew Greentree	Managing Director
Denis Rakich	Executive Director

Substantial Shareholders:	**%**
Dundee Resources	12.5%
Jupiter Investment Management	9.5%

Share Price Graph and Trading Volumes



Ausgold Ltd (AUC)

Katanning

Analyst: Patrick Streater

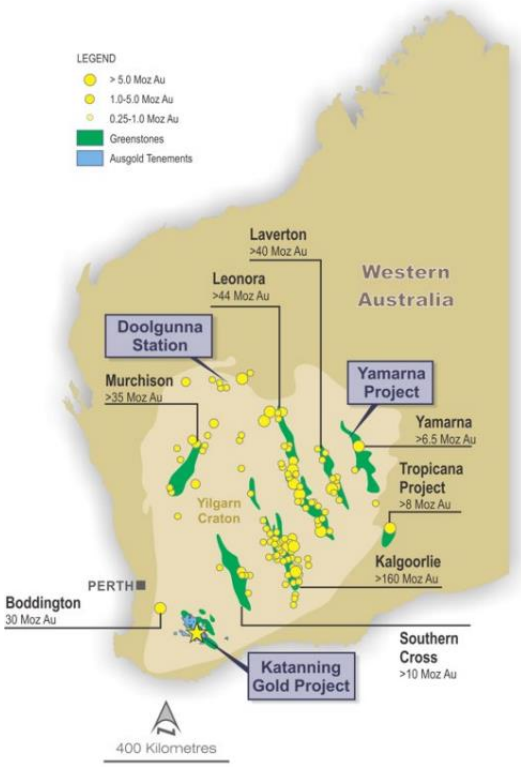
Quick Read

Ausgold's recent Katanning (KGP) MRE update saw the project reach the +3Moz mark with a total MRE of 89Mt at 1.06g/t Au for 3.04Moz. Ausgold is on track for the delivery of the KGP DFS in early 2024. Once permitted, the project looks attractive to existing producers looking for a long-life operation with a 136koz/pa production profile.

Overview

Location: AUC's Katanning Gold Project is 275km south-east of Perth and approximately 40km northeast of Katanning. In addition to the 3.04Moz Katanning resource, AUC holds a tenement portfolio covering over 5,500km^2 of the Katanning Greenstone Belt.

Figure 66: Location of the Katanning Gold Project.



Source: AUC

Resource and 2023 Options Study

AUC's September 2023 MRE update totalled 89Mt at 1.06g/t Au for 3.04Moz which represented a +400koz increase from the prior MRE. The MRE also resulted in an increased grade of 1.06g/t (up from 0.94g/t) which, combined with low processing costs, should see comfortable operating margins from Australia's largest undeveloped free mill gold project.

Figure 67: 2023 KGP Options Study showing 3Mtpa vs 5Mtpa Processing Scenarios.

Key Metrics	2023 Options Study[2]	
Processing Rate	3 Mtpa	5 Mtpa
Gold Price Assumption A$ per Ounce Gold	A$2,750	A$2,750
Life of Mine	11 years after 1.5 years construction	9.75 years after 1.5 years construction
Ore Tonnes Mined	32 Mt	44 Mt
Stripping Ratio	9.0	4.1
Average gold grade – LOM	1.25 g/t Au	1.05 g/t Au
Contained Gold	1.28 Moz	1.48 Moz
Cut-off Grade	0.6 g/t Au	0.45 g/t Au
Average gold production (recovered) – LOM	105 koz	136 koz
Recovered Gold	**1.16 Moz**	**1.32 Moz**
Financial Metrics		
Revenue	A$3,191M	A$3,641M
All in Sustaining Costs – LOM	A$1,699 per oz	A$1,549 per oz
Net free cashflow (pre-tax)	A$1,000M	A$1,141M
Net free cashflow (post-tax)	A$719M	A$770M
EBITDA – Life of Mine	A$1,248M	A$1,627M
Payback period (post-tax)	19 Months	20 Months
NPV (pre-tax)	A$702M	A$819M
NPV (post-tax)	A$492M	A$541M
Internal Rate of Return (IRR) post-tax	48%	46%
Capital Expenditure and Closure Costs		
[3]Pre-Production Capital and Operating Costs	A$243M	A$297M
Sustaining Capital Costs	A$29M	A$38M
Closure Costs	A$11M	A$13M

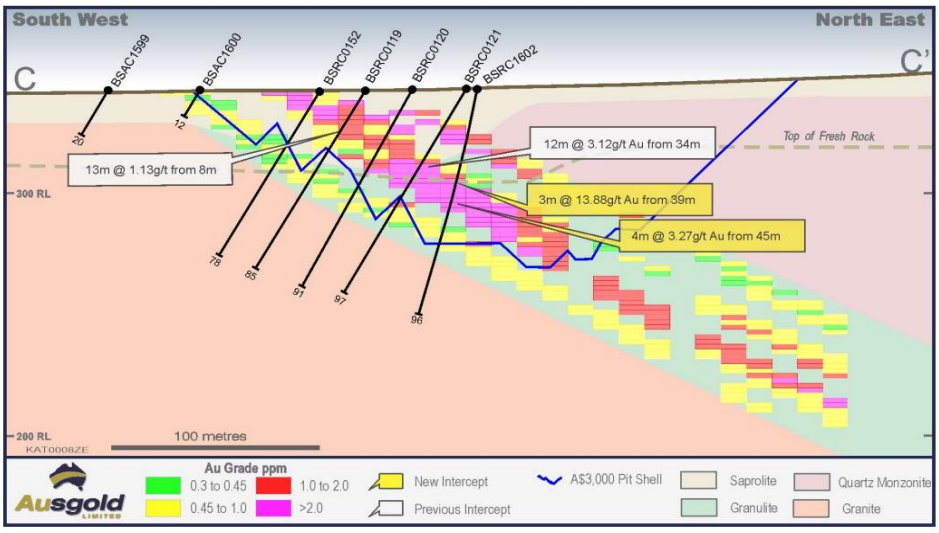
Source: AUC (adapted)

The Katanning Gold Project will produce an average 136Koz/pa over 9.75 years

Ausgold is currently completing its DFS which is anticipated to be completed in early 2024 and will incorporate the recent September MRE update along with a base case scenario of the 5Mtpa processing option. Concurrent with DFS work, AUC has continued negotiations to acquire freehold properties covered by the proposed mine footprint. Progress on this front has included the acquisition of two key freehold properties that cover initial mining areas and plant infrastructure locations.

The KGP will be a large-scale open-pit mining operation with a 5Mtpa plant

Figure 68: Cross Section of the KPG MRE - Jackson area.



Source: AUC

NOT COVERED

Current Price $3.96

Ticker:	**AZS**
Sector:	**Metals & Mining**

Key Financials	
Shares on Issue (m):	**458.2**
Market Cap ($m):	**1,814.6**
Cash Est. ($m):	111.2
Debt Est. ($m):	0.0
Enterprise Value ($m):	**1,703.4**
52 wk High/Low:	**$3.96** **$0.22**
12m Av Daily Vol (m):	**3.2**

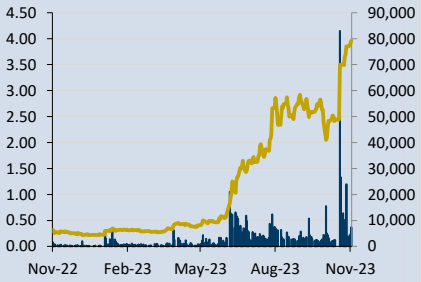
Projects	**Stage**
Andover (60%)	Exploration

Cashflows	**2022**	**2023**
Operating Cashflow	-19.7	-16.2
Investing Cashflow	-0.3	3.0
Financing Cashflow	0.4	20.1
Cash Balance	10.6	17.5

Directors:	
Brian Thomas	Chairman
Tony Rovira	Managing Director
Brett Dickson	CFO & Company Secretary
Annie Guo	Non-Executive Director
Hansjörg Plaggemars	Non-Executive Director

Substantial Shareholders:	**%**
SQM	20.0%
Yandal Investments	13.2%
Delphi + Deutsche Balaton	10.8%

Share Price Graph and Trading Volumes



Azure Minerals (AZS)

Andover

Analyst: Patrick Streater

Quick Read

The Andover lithium project (60% AZS, 40% Creasy Group) is located in the West Pilbara region of Western Australia, 35km southeast of Karratha. In 2022, +700 outcropping pegmatites were discovered at the project across a 9km x 5km pegmatite field. The discovery led to a successful +50km diamond and RC drilling exploration drilling campaign which resulted in AZS has reporting an exploration target of 100Mt - 240Mt grading at 1.0% - 1.5% Li_2O. In October SQM made an offer to acquire 100% of the shares in Azure for a cash amount of $3.52 per Azure Share, implying a fully-diluted equity value for Azure of ~A$1.63 billion.

Overview

Geology: Andover covers most of the Andover Mafic-Ultramafic Intrusive Complex which has similar geological characteristics to the East Kimberley region. Azure recognised the potential for Andover to host significant lithium mineralisation with the identification of spodumene-bearing pegmatites within an area of 9km (east-west) and up to 5km (north-south). Surface sampling returned numerous high grade lithium assays between 1% to 5% Li2O.

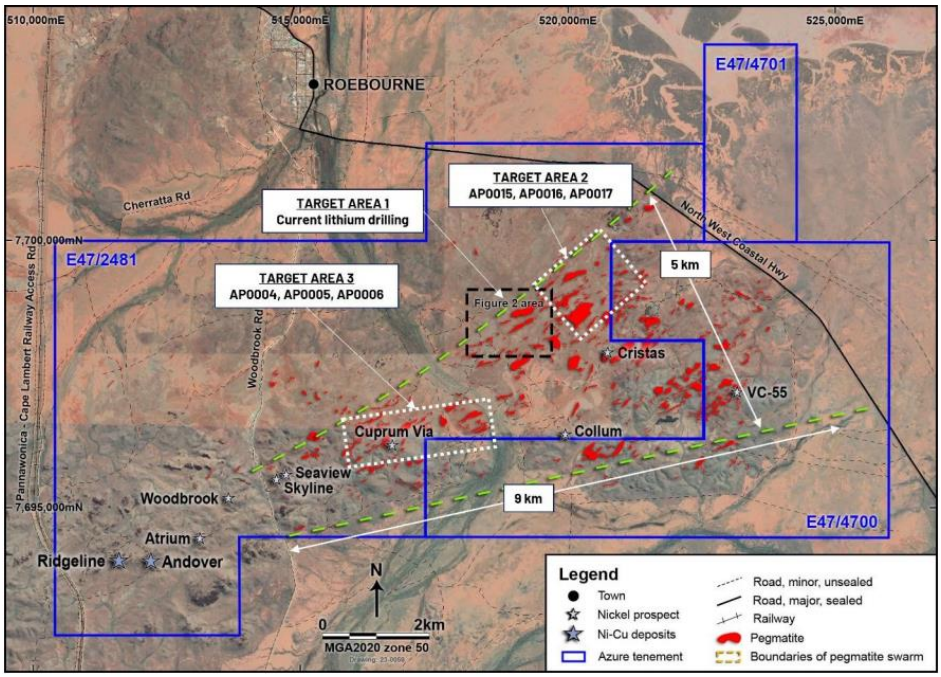
Drilling: Since lithium-focused drilling commenced in March 2023, more than 52km of RC and diamond drilling has been completed with significant results reported including:

- 209.4m at 1.42% Li2O from 219.0m
- 183.1m at 1.25% Li2O from 170.5m
- 167.6m at 1.31% Li2O from 168.4m
- 132.3m at 1.25% Li2O from 122.2m
- 104.7m at 1.61% Li2O from 325.8m

Size Potential: In August 2023, AZS announced an Exploration Target for Andover encompassing Target Areas 1, 2 and 3. The reported estimated range of potential mineralisation was 100Mt - 240Mt grading at 1.0% - 1.5% Li_2O. Target Area 1, 2 and 3 represent perhaps a quarter of the mapped pegmatite field at Andover so significant upside is still present to the reported 100-240Mt Exploration Target.

Initial Metallurgical Test work: In October AZS released initial metallurgical test work results for Andover. Whole-of-ore flotation has produced a spodumene concentrate with a grade of 5.59% Li_2O at a recovery of 82.37%. QEMSAN and LA-ACIP-MS completed indicates spodumene as the dominate Li-bearing mineral which hosts approximately 95% of the lithium content in samples tested.

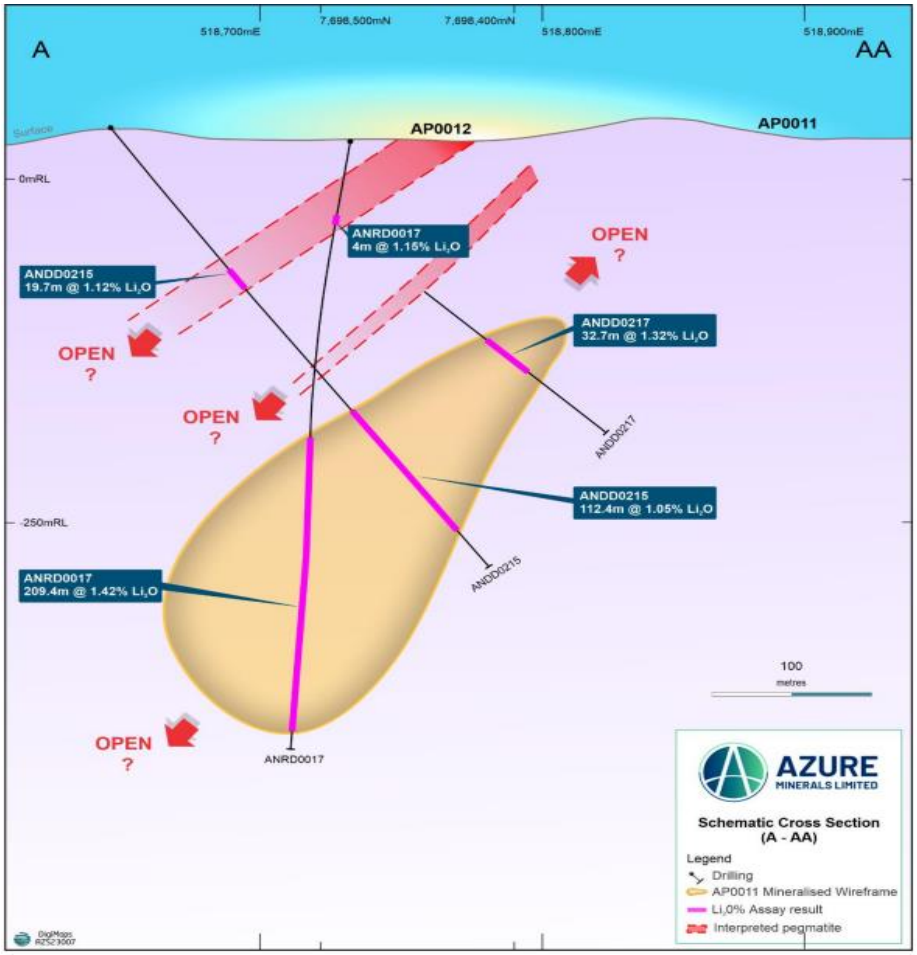
Figure 69: Pegmatite outcrops and target areas at the Andover Lithium Project.



Source: AZS

The Andover pegmatite field is impressive in scale and only fraction has been drill tested

Figure 70: AP011 Wireframe section A-AA.



Source: AZS

Cross-sections indicate good down dip continuity and lodes widening at depth

NOT COVERED

Current Price $0.37

Ticker:	**BKY**
Sector:	**Metals & Mining**
Shares on Issue (m):	**445.8**
Market Cap ($m):	**162.7**
Cash Est. ($m)	80.0
Debt Est. ($m)	0.0
Enterprise Value ($m):	**82.7**
52 wk High/Low:	**$0.80** **$0.26**
12m Av Daily Vol (m):	**0.4**

Projects	**Stage**
Salamanca	Feasibility/Permitting

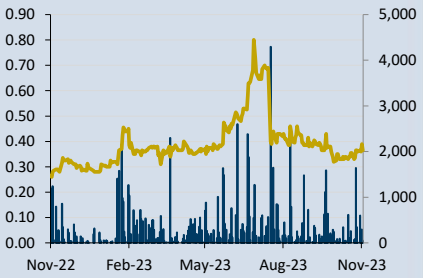
Mineral Resource	**Mt**	**U3O8 (PPM)**	**U3O8 (Mlb)**
Salamanca	82.6	514	89.3

Cashflows	**2022**	**2023**
Operating Cashflow	-5.8	-4.1
Investing Cashflow	0.0	0.0
Financing Cashflow	-0.1	0.0
Cash Balance	79.9	78.8

Directors & Management:	
Ian Middlemas	Chairman
Robert Behets	Acting Managing Director
Francisco Bellón del Rosal	Executive Director
Adam Parker	Non-Executive Director
Dylan Browne	CFO & Company Secretary

Substantial Shareholders:	**%**
Paradice Investment Management	9.9%
Packer & Co.	6.4%

Share Price Graph and Trading Volumes



Berkeley Energia (BKY)

Salamanca

Analyst: George Ross

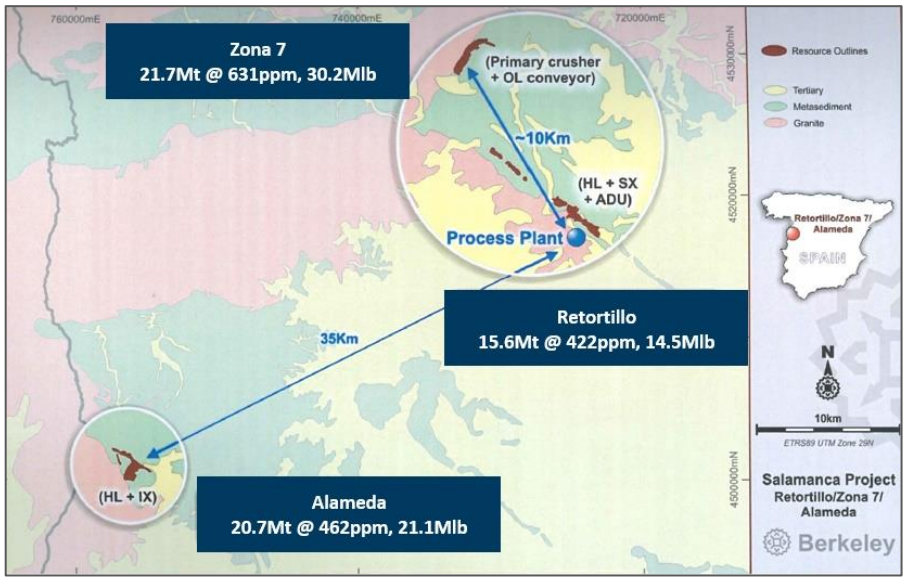
Quick Read

Berkeley Energia Limited (BKY) is focused on bringing its 100% owned Salamanca uranium project into production. Salamanca is located in an area historically mined for uranium in Western Spain, approximately three hours west of Madrid. The Project hosts Mineral Resources containing 89.3Mlbs and Reserves containing 54.6Mlbs of U_3O_8. Despite facing ongoing permitting challenges, Salamanca is backed by strong underlying technical fundamentals.

Overview

Location: The Salamanca Project is located in the central western Salamanca Province of Spain, within 40 kilometres of the border with Portugal. The project benefits greatly from the well-established EU funded infrastructure in the region with an initial capital cost of only US$93.8 million (estimated 2016) relatively low for a project of its scale.

Figure 71: Deposits and regional project infrastructure.



Source: BKY

Geology: The project includes 13 separate Resources grading between ~400-760ppm U_3O_8. The initial mine plant focuses on production from the three largest deposits: Retorillo, Zona 7 and Almadea. Uranium mineralisation is hosted within metasediments adjacent to a granite. Uranium mineralisation includes veins, stockworks and disseminations of uraninite and coffinite. Supergene-like enrichment occurs as flat tabular bodies at depth of weathering.

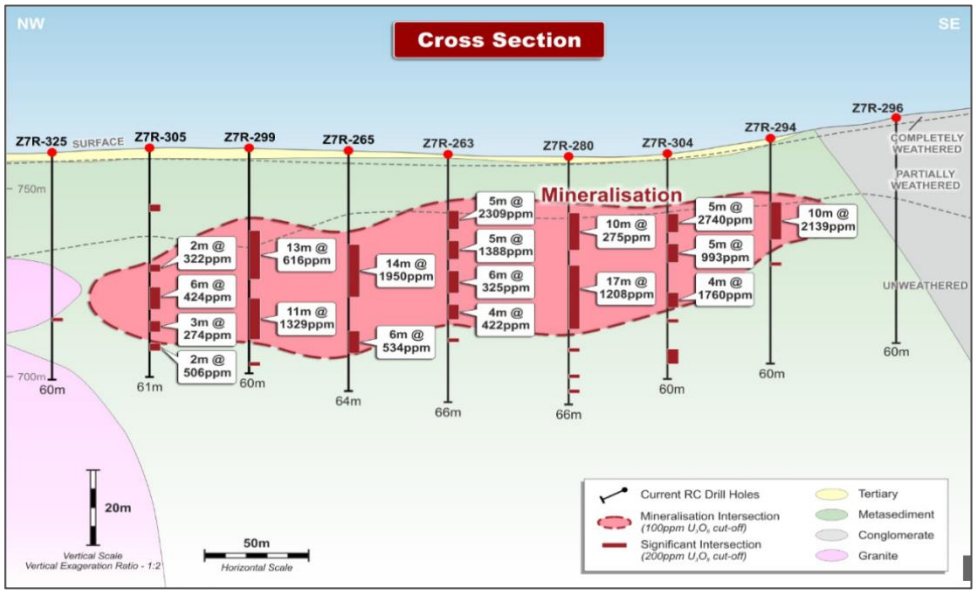
Proposed Development In 2016, BKY released a positive DFS with initial 14-year operation, capable of producing 4.4 million pounds of U_3O_8 per annum. The study

envisages low conventional mining of three deposits. Mining will initially begin at Retorillo, followed by Zona 7 in year two and Alameda in year three.

Processing will be completed at centralised plant built adjacent to the Retortillo deposit. Primary crushing of Zona 7 ore will occur at the pit, prior to it being transported to the plant via a 10km conveyor. Ore will be crushed, screened and agglomerated prior to stacking onto on/off heap leach pads for uranium extraction using sulphuric acid.

Figure 72: Zona 7 cross section.

Zona 7 is a simple ore body



Source: BKY

The Salamanca study estimated capital costs to first production from Retorillo of US$94M. Development of Zona 7 and Alameda will require an additional US$139M in capital expenditure to be incurred during the first and second year of production. The study derived a C1 cash cost of US$13.3/lb U_3O_8 and C2 cash cost (C1 plus depreciation and amortisation) of US$17.2/lb U_3O_8. BKY's 2016 financial model generated a post-tax $NPV_{8\%}$ of US$532M with a 60% internal rate of return. The model incorporates uranium sales pricing starting at US$39/lb in Year 1, US$45/lb by Year 5 and incrementally escalating to US$67/lb by Year 14. At the time of writing this edition of BUPS uranium was priced at US$74/lb in the spot market.

Permitting remains a challenge

Permitting Issues

In December of 2021 year, against a backdrop of anti-nuclear sentiment Spain's Ministry for Ecological Transition and the Demographic Challenge (Miteco) formally rejected BKY's authorisation to build a uranium processing plant at the Salamanca Project. Denial of the 'NSC II' application followed an unfavourable report by the Nuclear Safety Council in July 2021. Salamanca is unable to proceed without approval of the NSC II permit.

Unless there is an ideological shift towards approval of nuclear power generation by the ruling Spanish Socialist Workers' Party, or a change in government, progression of Salamanca's development is likely to remain on ice. However, BKY remains well funded with $79M in cash reserves and no debt at 30 June 2023. We remain confident Salamanca will ultimately have its day in the sun.

NOT COVERED

Current Price $2.57

Ticker:	**EMR**
Sector:	**Metals & Mining**
Shares on Issue (m):	**621.7**
Market Cap ($m):	**1,597.7**
Cash Est. ($m)	110.0
Debt Est. ($m)	55.9
Enterprise Value ($m):	**1,543.7**
52 wk High/Low:	**$2.91** **$1.09**
12m Av Daily Vol (m):	**1.6**

Projects	**Stage**
Okavu (100%)	Production
Bullseye (76.5%)	Development

Mineral Resource	**Mt**	**Au (g/t)**	**Au (Moz)**
Okavu (100%)	88.9	1.06	3.0
Bullseye (76.5%)	3.42	2.51	0.276

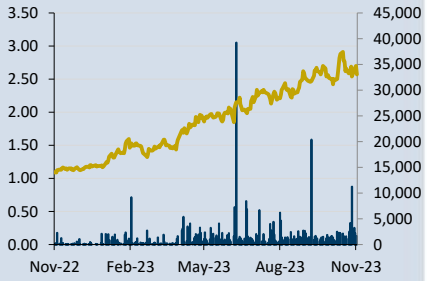
Ore Reserve	**Mt**	**Au (g/t)**	**Au (Moz)**
Okavu (100%)	32.0	1.25	1.3

Cashflows	**2022**	**2023**
Operating Cashflow	62.5	64.2
Investing Cashflow	-26.8	-15.1
Financing Cashflow	-18.0	-24.7
Cash Balance	43.0	71.0

Directors:	
Jay Hughes	Non-Executive Chairman
Morgan Hart	Managing Director
Michael Evans	Executive Director
Ross Stanley	Non-Executive Director
Billie Slott	Non-Executive Director
Michael Bowen	Non-Executive Director
Simon Lee AO	Non-Executive Director
Mark Clements	Non-Executive Director

Substantial Shareholders:	**%**
BlackRock	8.1%
Van Eck	7.1%
T. Rowe Price Associates	6.9%
Morgan Hart	6.3%
Tazga Two Pty Ltd	5.9%

Share Price Graph and Trading Volumes



Emerald Resources (EMR)

North Laverton

Analyst: George Ross

Quick Read

EMR is in the process of taking over public unlisted company Bullseye Mining Limited. Bullseye holds three Western Australian gold projects totalling in excess of 1,200km^2 of highly prospective gold tenure. The North Laverton Gold Project (NLGP) is the most advanced of the three and covers 800km of the entire Dingo Range greenstone belt.

Overview

Tenure & Geology

The NLGP is located 180km south-east of Wiluna and 90km north-east of Leinster. The NLGP is located within the central part of the Dingo Range Greenstone Belt which is 5-12km wide. The belt includes a folded sequence of interbedded chert, shale and volcanic rocks. The five defined NLGP gold deposits are located within 36km^2 of granted Mining Leases.

Mineral Resources

The NLGP includes Mineral Resource Estimates for the Boundary, Bungarra and Stirling deposits. Since reporting of these Resources, open pit mining has partially depleted the Bungarra deposit with ~20koz of gold produced to date at a recovery of >94%. Additional Resources and Reserves are expected to be published in the second half of 2023. Five prospects: Freemans/Eclipse, St. Francis, Boundary North, Aviary/Red Cloud and Banjawarn remain undrilled.

Table 16: North Laverton Gold Project

Deposit	Tonnage Mt	Au g/t	Ounces koz
Boundary	2.78	2.37	212
Bungarra	0.55	3.26	58
Sitrling	0.09	2.25	6

Source: Bullseye

Drilling Program

Following acquisition of a controlling interest in the NLGP by EMR in June 2022, the Group embarked upon a 98,000m resource definition program. Prospects to be tested include Boundary, Neptune, Stirling, Hurleys and Bungarra. Each of these prospects had previously only been drill tested to 120m average vertical depth. The long section in Figure 74 presents gram/metre gold intervals across the Boundary, Neptune and Stirling deposits.

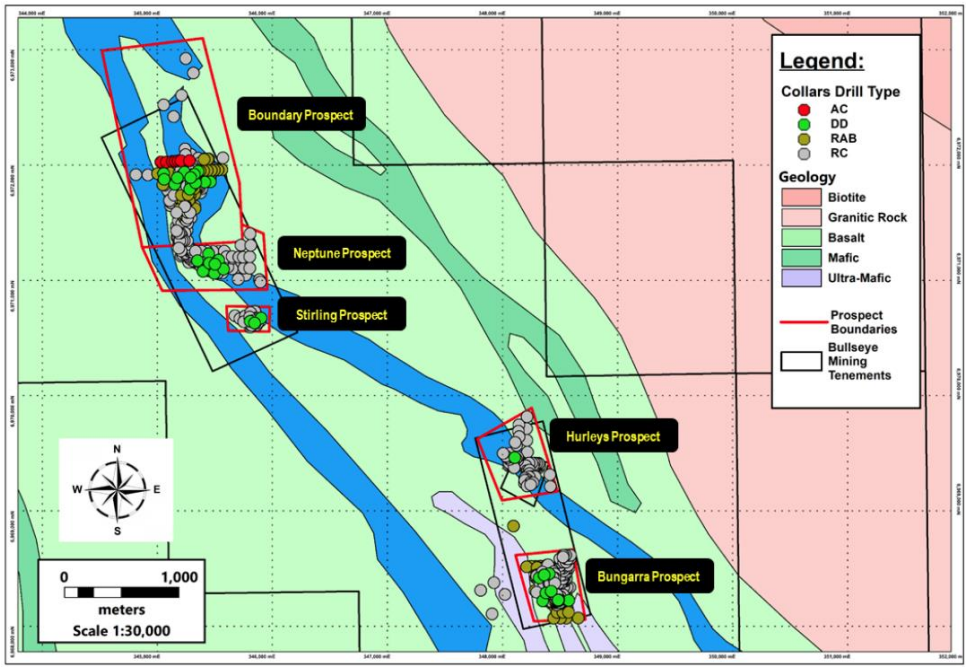
Development Plans

Mining commenced at the Bungarra open pit in December 2020. Current plans for NLGP include concurrent mining of open pits at Bungarra, Boundary and Stirling. Ore will be

blended and then treated at a central processing plant. Studies and development of NLGP project is underway.

An extensive drill out is underway

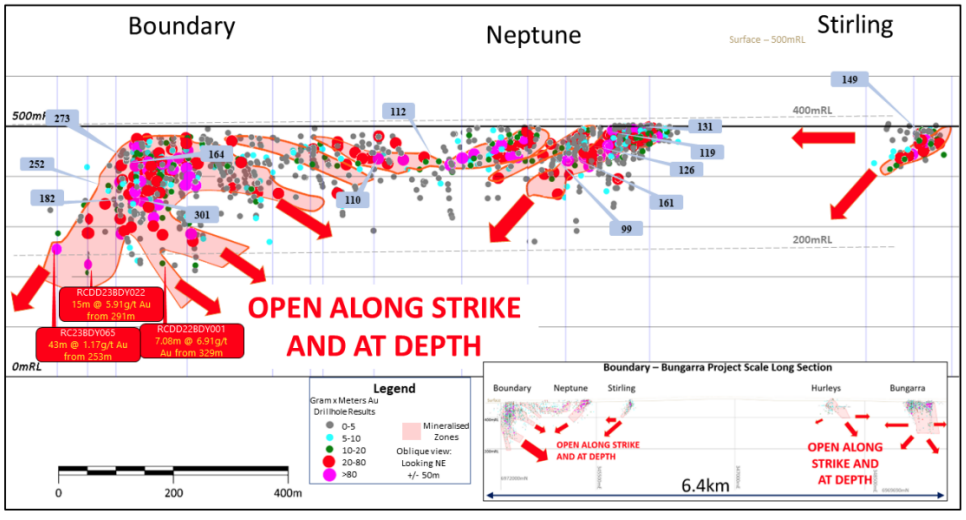
Figure 73: Plan view of planned drilling at the North Laverton Gold Project.



Source: Bullseye

Deposits remain open at depth and along strike

Figure 74: NLGP Long section with gold gram/metre intervals. New results displayed in red call outs.



Source: Bullseye

NOT COVERED

Current Price $0.18

Ticker:	**LSE: GGP**
Sector:	**Metals & Mining**
Shares on Issue (m):	**5,090.4**
Market Cap ($m):	**897.0**
Cash Est. ($m):	59.0
Debt Est. ($m):	0.0
Enterprise Value ($m):	**838.0**
52 wk High/Low:	**$0.18** **$0.06**
12m Av Daily Vol (m):	**13.5**

Projects	**Stage**
Havieron (30%)	Resource Development

Mineral Resource	**Mt**	**Au (g/t)**	**Au (Moz)**
Havieron (100%)	92.0	2.20	6.5

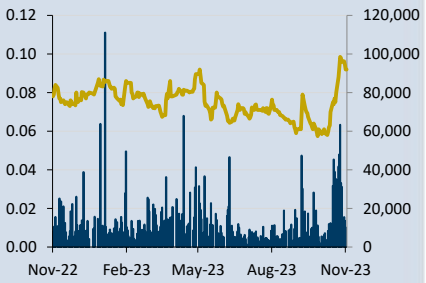
Ore Reserve	**Mt**	**Au (g/t)**	**Au (Moz)**
Havieron (100%)	25.0	3.70	2.9

Cashflows	**2022**	**2023**
Operating Cashflow	-6.0	-10.4
Investing Cashflow	-29.0	-27.9
Financing Cashflow	38.4	61.5
Cash Balance	10.4	31.1

Directors:	
Mark Barnaba	Non-Executive Chairman
Elizabeth Gaines	Non-Executive Deputy Chair
Shaun Day	Managing Director
Alex Borrelli	Non-Executive Director
Yasmin Broughton	Non-Executive Director
Clive Latcham	Non-Executive Director
Paul Hallam	Non-Executive Director

Substantial Shareholders:	**%**
Wyloo Metals	8.5%
HBOS	7.1%
Van Eck	5.0%

Share Price Graph and Trading Volumes



Greatland Gold (AIM:GGP)

Havieron

Analyst: Patrick Streater

Quick Read

Greatland Gold's Havieron discovery in the Paterson Region in northern WA has been the real success story of the Paterson in the last 10 years. From the initial discovery hole in November 2018, development progress has been rapid, aided by the participation of major producer Newcrest (now Newmont) who now own a 70% interest in Havieron. 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. Completed drilling since then continues to expand the resource at depth at the SE Crescent, Northern Breccia and Eastern Breccia areas.

Overview

Resource-Reserve Conversion Rate: Greatland's Havieron March 2022 Ore Reserve demonstrated an 86% resource-reserve conversion rate indicative of the quality of the deposit. Project economics are driven by the +3g/t Au and 0.5% Cu mining inventory which sits within a steeply dipping cresent shape. Greatland's preferred mining method of sub-level open stoping enables large 25mx30mx50m stopes with planned annual production rates approaching 3Mtpa.

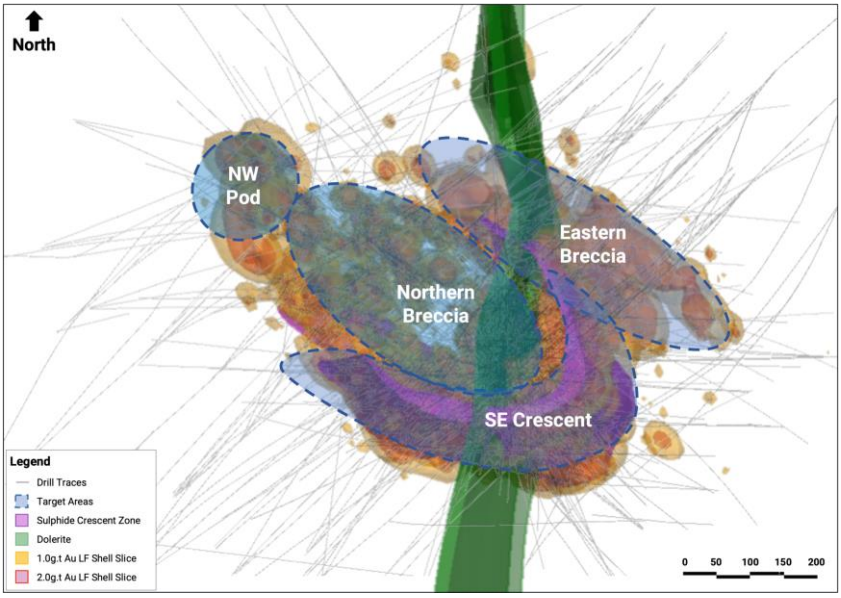
Enviable OVM Profile: The viability of the Haverion Project is perhaps best demonstrated by the high ounces per vertical metre profile (OVPM) which Greatland states are averaging >8,000 for the top 400m of the resource. Further increases to the overall OVM profile are anticipated with a considerable amount of drilling completed since the last MRE update.

Development and Drilling Update: Decline development down to Havieron carries on with 1,840m of the planned 2,600 metres now completed. On the drilling front, Greatland has stated it intends to release an updated Havieron MRE during the December 2023 quarter which will incorporate over 80,000m of additional drill metres since the last March 2022 MRE.

Havieron future linked to Telfer: Prior to its takeover by Newmont, Newcrest stated the continuity of Telfer Operations extends into early FY25 with its West Dome Stage 8 cut-back approved in November 2022. In the short term, we don't expect Newmont's plan for Havieron will differ from the proposed Newcrest development timeline. Newmont will hold a stronger hand in any potential divestment discussions of its Telfer and Havieron assets with Havieron in production and de-risked. Initial production from Havieron will be processed through the Telfer Mill, located 50km to the west. In the long-term, we expect challenges in Telfer maintaining its production profile to meet the size of the Telfer Mill. A new standalone mill at Havieron, correctly sized, may be the best option to capture the most value from Havieron.

High-grade domains at Havieron sit within the SE Crescent Zone

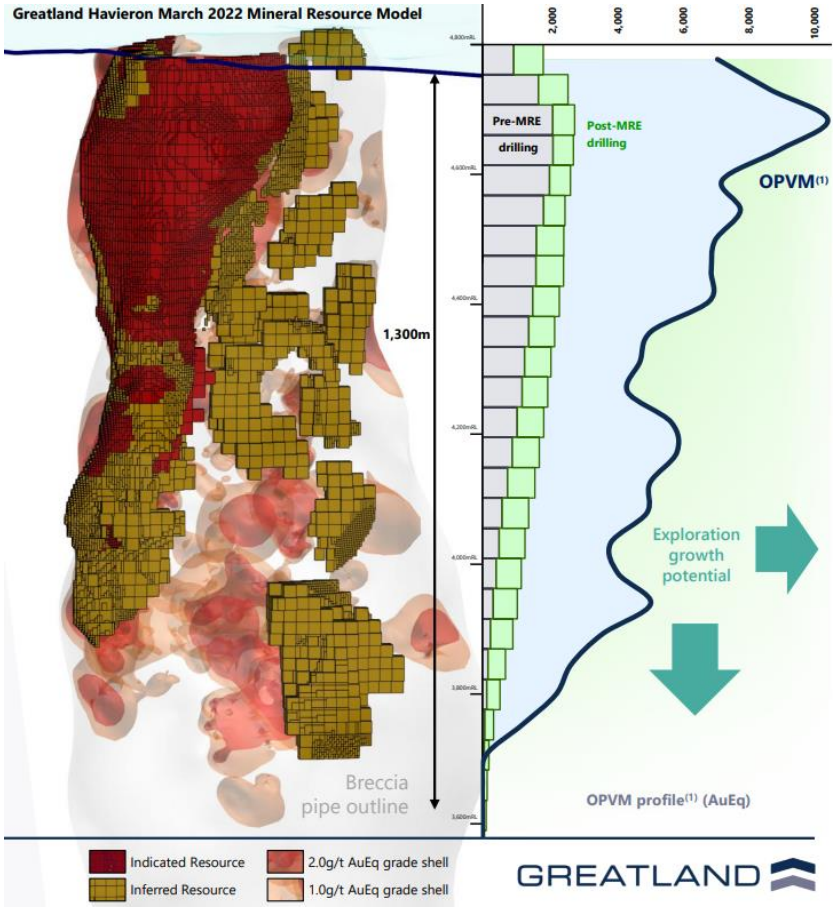
Figure 75: Plan view of the Havieron deposit with completed drilling.



Source: GGP

Havieron resource model exhibits an attractive OVM profile that's constrained at depth by a lack of drilling

Figure 76: Long Section of the Havieron March 2022 Resource block model with ounces per vertical metre profile.



Source: GGP

Lunnon Metals (LM8)

Kambalda

Analyst: George Ross

SPEC BUY

Current Price	$0.70
Valuation	$1.21

Ticker:	**LM8**
Sector:	**Metals & Mining**
Shares on Issue (m):	**215.9**
Market Cap ($m):	**151.1**
Cash Est. ($m)	31.9
Debt Est. ($m)	0.0
Enterprise Value ($m):	**119.2**
52 wk High/Low:	**$1.19** **$0.67**
12m Av Daily Vol (m):	**0.1**

Projects	**Stage**
Kambalda	Prefeasibility

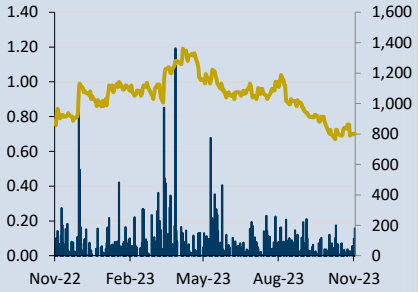
Mineral Resource	**Mt**	**Ni (%)**	**Ni (kt)**
Kambalda	2.9	2.90%	88.0

Cashflows	**2022**	**2023**
Operating Cashflow	-5.9	-7.4
Investing Cashflow	-3.7	-6.6
Financing Cashflow	28.4	0.6
Cash Balance	32.9	0.1

Directors:	
Liam Twigger	Non-Executive Chairman
Edmund Ainscough	Managing Director
Ian Junk	Non-Executive Director
Ashley Mcdonald	Non-Executive Director
Deborah Lord	Non-Executive Director

Substantial Shareholders:	**%**
St Ives Gold Mining	30.8%
Bolong Investment Management	9.4%

Share Price Graph and Trading Volumes



Quick Read

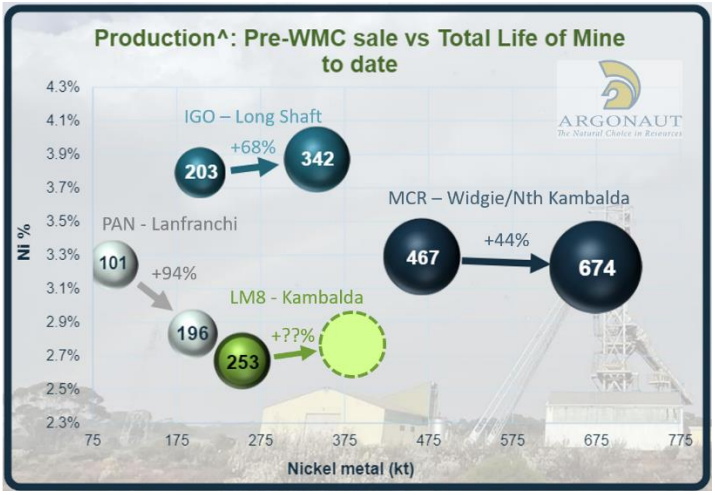
LM8's Kambalda nickel assets within existing mining licenses provides the company with a rapid pathway to development. Recent conversion of unmined mineralisation into Resources and the early discovery success at Baker underlines the prospectivity of the greater Kambalda Nickel Project. Ongoing seismic survey directed drilling could unlock new discoveries and transform the Project's scale.

Overview

Lunnon Metal's controls the Silver Lake-Fisher and Foster-Baker areas, which we term collectively as the 'Kambalda Package'. The tenement holdings are located immediately east, and 20km south-east of BHP's Kambalda Nickel Concentrator. Kambalda style komatiitic nickel mineralisation is famous for its tenor, continuity and attractive FeMgO ratio. LM8's projects include four ex-WMC mines that were closed in the 1980's and 1990's following production of 253kt of nickel metal. In late 2001 the mines were sold by Western Mining Corporation (WMC) to Gold Fields Ltd as part of the St Ives Gold Mine package. As the new owners were gold focussed, little to no nickel exploration was completed following the transaction. LM8's founders were able to obtain the nickel rights for this previously productive, under-explored ground.

LM8's value proposition is quite simple: WMC left significant tonnes of metal in the ground when it shuttered and sold up its WA nickel assets. This is evidenced by the production achieved by IGO, MCR and PAN at each of their former WMC operations (Figure 77). If other operations have increased production output by 44-98%, logic would suggest this could be repeated for LM8's Silver Lake, Fisher, Foster and Jan mines.

Figure 77: Production yielded from assets by new owners as compared with WMC production.



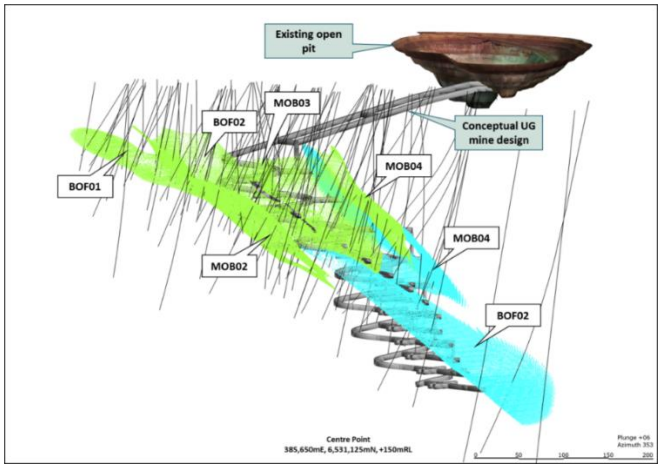
Source: Argonaut after LM8

Baker Rises

Baker has risen

The discovery of Baker provided quick vindication for LM8's theory that WMC had left valuable tonnes of nickel in the ground. Baker hosts a current MRE of 929kt grading 3.3% Ni for 30.8kt of contained nickel metal. The deposit is likely to grow further with down plunge drilling from underground platforms once the mine is developed. The Baker PFS was reported in May of 2023 and defines a Probable Ore Reserve of 612kt grading 2.86% Ni. The PFS generates a Pre-tax $NPV_{8\%}$ of A$164M with pre-production capital of only A$18.6M.

Figure 78: Baker MRE illustrating Indicated (green) and Inferred (blue) ore categories.



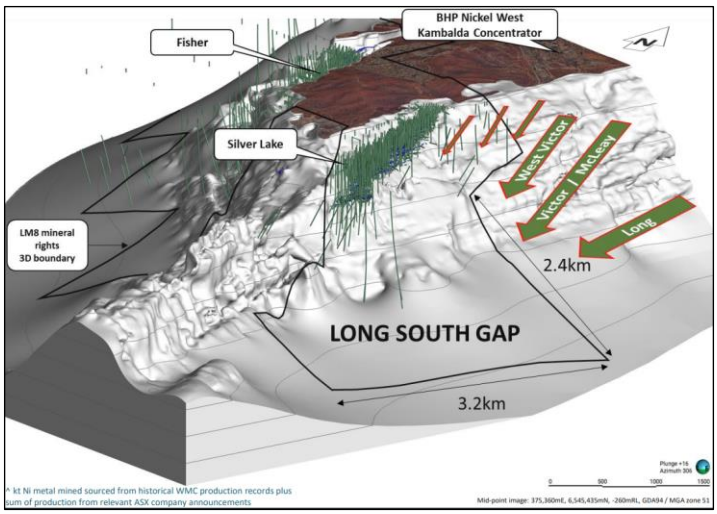
Source: LM8

Long South Gap

Long South Gap drilling could be transformational for LM8 and exploration in the region

LM8's next major phase of exploration is focused upon the Long South Gap area within the Silver Lake-Fisher tenure package. Long South Gap domain represents the underexplored south-eastern flank of the Kambalda Dome. This area includes the downstream continuation of the West Victor, Victor/McLeay and Long Mine komatiite channels. Recent seismic geophysical surveying of the area suggests prospective channel features can be detected for drill targeting. Ongoing drilling will test newly delineated targets. Further exploration success could be transformative for the Project and LM8.

Figure 79: Long South Gap area with vectors of interpreted channel trends



Source: LM8

NOT COVERED

Current Price $0.24

Ticker:	**MEI**
Sector:	**Metals & Mining**
Shares on Issue (m):	**1,943.7**
Market Cap ($m):	**466.5**
Cash Est. ($m)	9.1
Debt Est. ($m)	0.0
Enterprise Value ($m):	**457.4**
52 wk High/Low:	**$0.27** **$0.01**
12m Av Daily Vol (m):	**10.9**

Projects	**Stage**
Caldeira	Resource Development

Mineral Resource	**Mt**	**TREO (ppm)**
Caldeira	409.0	2626.00

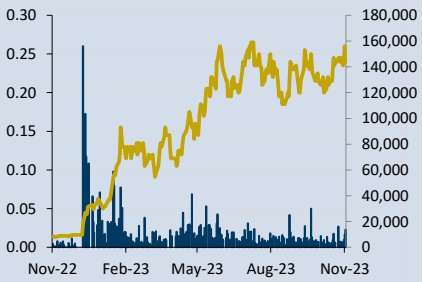
Cashflows	**2022**	**2023**
Operating Cashflow	-5.0	-16.5
Investing Cashflow	0.0	3.9
Financing Cashflow	2.6	28.3
Cash Balance	1.6	17.3

Directors & Management:

Dr Andrew Tunks	Executive Chairman
Dr Marcelo De Carvalho	Executive Director
Paul Kitto	Non-Executive Director
Nick Holthouse	CEO

Substantial Shareholders:	**%**
Tolga Kumova	8.3%

Share Price Graph and Trading Volumes



Meteoric Resources (MEI)

Caldeira

Analyst: George Ross

Quick Read

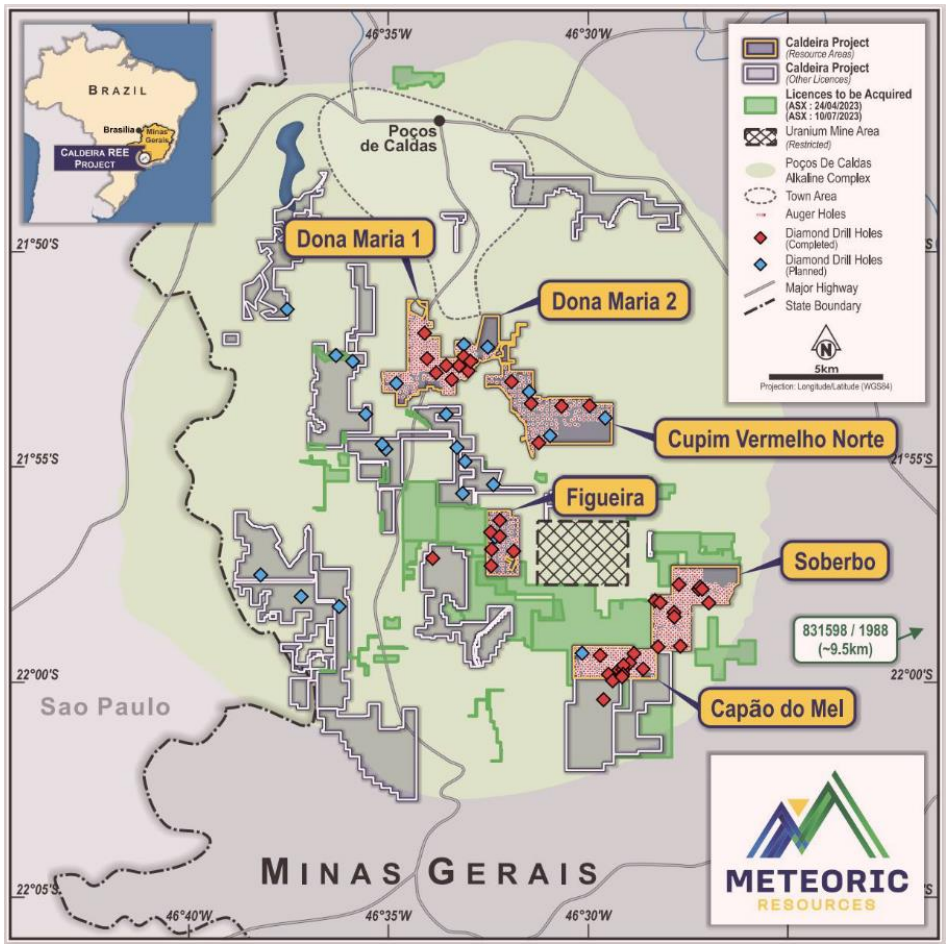
Meteoric Resources (MIE) Brazilian Caldeira Ionic Rare Earth Element Project is something special. The project's scale and grade make it a standout on the global stage. Exploration and technical studies are underway.

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 30 Mining Requests and Concessions.

Figure 80: 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.

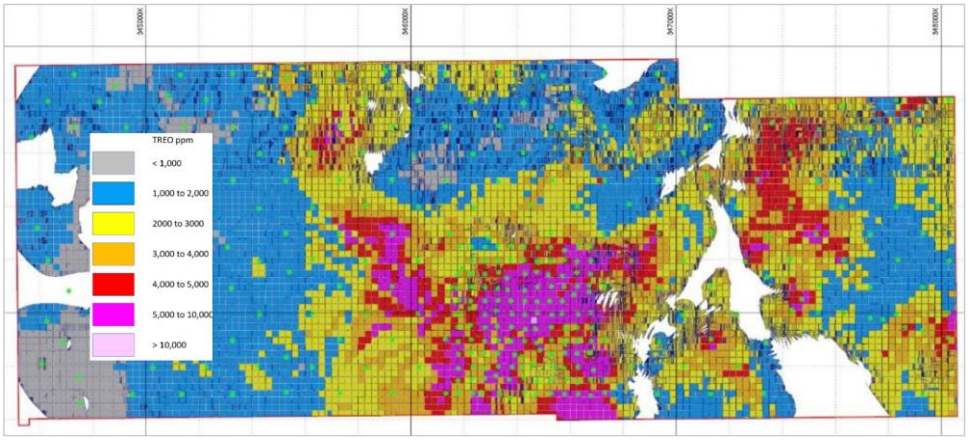
Unmatched ionic rare earth clay deposit grade and scale

The Caldeira global MRE is reported as a headline 409Mt grading 0.26% TREO (Total Rare Earth Oxides). This includes a high-grade component of 72Mt grading 0.46% TREO. Argonaut anticipates this resource will ultimately multiply in scale, with only around 20% of the total tenure area drill tested to date (Figure 80). Caldeira's payable REE basket is dominated by light magnet elements praesidium and neodymium with less terbium and dysprosium (24% MREO/TREO).

True ionic clay style REE mineralisation can be mined by free digging and can be 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 leachability of 70% from oxidised clays (grade range of 0.14-1.0% TREO) utilising an ammonium sulphate wash at pH 4.0.

Internal high-grade zones will be key to early development

Figure 81: Capão do Mel block model plan view with drill locations.



Source: MEI

Potential Development

In October, global engineering firm Ausenco was awarded a contract for the Caldeira REE Project Scoping Study. The Study is expected to be completed by Q1 of CY2024. The Study will utilise existing Inferred category resources located within the Figuera, Capoa de Mel and Soberbo Mining Leases. Argonaut anticipates the Study will include a large component of high-grade material (0.46%) during the initial years of mine life.

In Argonaut's view, MEI's Caldeira project possesses both the scale and attributes to become a world leading magnet rare earth project.

NOT COVERED

Current Price $1.12

Ticker:	**TSXV: PMET**
Sector:	**Metals & Mining**
Shares on Issue (m):	**1,110.5**
Market Cap (C$m):	**1,243.7**
Cash Est. (C$m)	163.0
Debt Est. (C$m)	0.0
Enterprise Value (C$m):	**1,080.8**
52 wk High/Low:	**$1.99** **$0.69**
12m Av Daily Vol (m):	**2.9**

Projects	**Stage**
Corvette	Resource Development

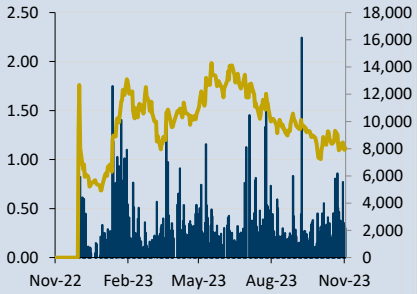
Mineral Resource	**Mt**	**Li_2O (%)**	**Li_2O (kt)**
Corvette	109.2	1.42%	1,550.6

Cashflows	**2022**	**2023**
Operating Cashflow	-3.4	-8.0
Investing Cashflow	-8.0	-30.6
Financing Cashflow	23.8	88.4
Cash Balance	12.5	62.6

Directors:	
Ken Brinsden	Non-Executive Chairman
Blair Way	CEO, President & Director
Natacha Garoute	CFO
Pierre Boivin	Director
Brian Jennings	Director
Mélissa Desrochers	Director

Substantial Shareholders:	**%**
Albemarle Corp	6.4
Van Eck Associates	1.6

Share Price Graph and Trading Volumes



Patriot Battery Metals (PMT)

Corvette

Analyst: Patrick Streater

Quick Read

In July of 2023, Patriot Battery Metals (ASX:PMT) released the much-anticipated Maiden MRE for its Corvette Lithium Project in Quebec, Canada. The maiden MRE saw PMT join the +100Mt Li_2O club with a Maiden Inferred MRE of 109Mt at 1.42% Li_2O using a 0.40% Li_2O cut-off. The MRE positions Corvette in the top ten largest hard rock lithium deposits globally and the largest in the Americas.

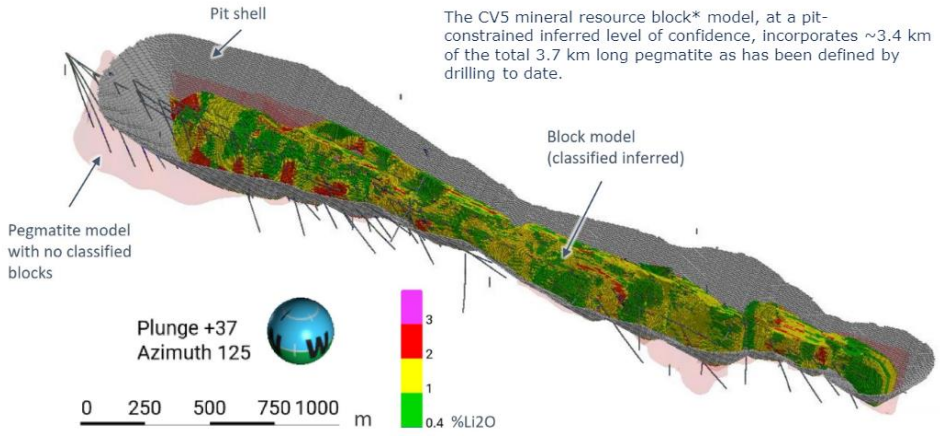
Overview

MRE worth the wait: PMT attracted criticism from market pundits for repeated delays to the release of the Corvette MRE. PMT addressed some analyst's concerns about the deposit by providing several geological cross-sections through the deposit that demonstrated reasonable continuity of the pegmatite host units. Some cross sections did show tight pinching and swelling of the pegmatite host however reasonable continuity was demonstrated with the drilling completed to date. More clarity around the geometry of these pegmatites will come in time through further drilling but for now, in Argonaut's view, the geological interpretation holds up to support the large tonnage reported in the MRE.

More Exploration Drilling to come: The CV5 MRE is one of several pegmatite clusters located along a 50km trend of PMT's landholding. The 2023 Summer-fall drill campaign will provide steady news flow from 30km of drilling allocated to:

- Infill drilling at CV5 to upgrade resource classifications
- Step-out drilling along strike of CV4 and CV13
- Resource definition drilling at CV13 to support a maiden MRE

Figure 82: Isometric view of the Corvette (CV5) maiden MRE. Source: PMT



Source: PMT

Into the Development Stage

Albemarle Backing

Albemarle backs the Corvette Project with a C$109m placement

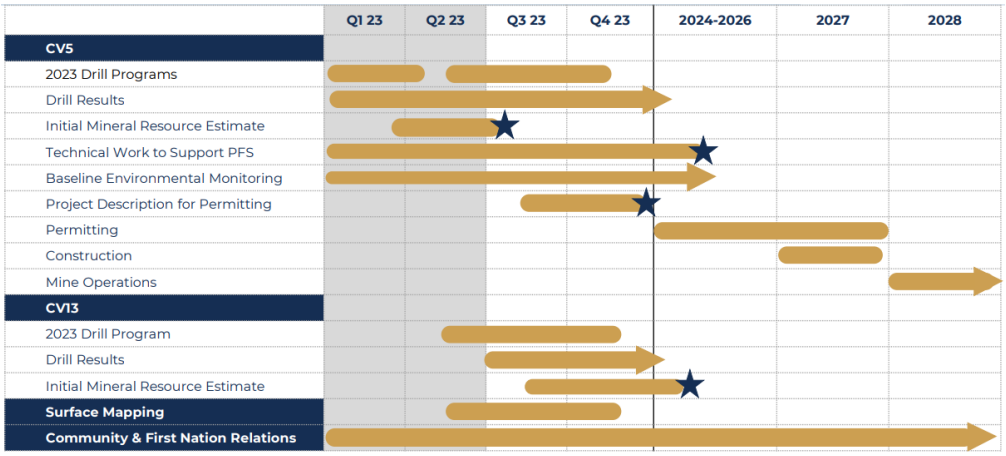
In July 2023, PMT announced Albemarle had taken a 4.9% position in PMT which gave the Corvette Project the backing of a significant player in the sector. The subscription agreement saw Albemarle provide a private placement of C$109m at +7% premium to the last traded share price. The strategic investment 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. Albemarle's involvement in Corvette suggests they see a viable path to production for Corvette although their participation is a strategic position likely working on longer timeframes than most retail and institutional investors in PMT.

Permitting Begins

Permitting not expected to be quick or easy - short-term investors patience will be tested

With the maiden MRE now released, the focus turns towards the permitting process to bring Corvette into production. A significant portion of the Corvette MRE sits underneath lake cover which would require partial drainage under an open-pit development scenario. PMT is targeting a submission of Project Description to the Provincial and Federal governments this year to start this permitting process. Initial development timelines provided by PMT show permitting continuing up to 2028 within mining operations beginning in CY2028. On paper proposed timelines seem achievable but we wouldn't be surprised if permitting timelines blowout given sensitivities on the large body of water that will be disturbed to develop Corvette.

Figure 83: PMT's stated development schedule for the Corvette Lithium Project (August-2023).



Source: PMT

Predictive Discovery (PDI)

Bankan

Analyst: Ben Crooks

SPEC BUY

Current Price	$0.21
Valuation	$0.36

Ticker:	**PDI**
Sector:	**Metals & Mining**
Shares on Issue (m):	**2,068.2**
Market Cap ($m):	**424.0**
Cash Est. ($m)	35.4
Debt Est. ($m)	0.0
Enterprise Value ($m):	**388.6**
52 wk High/Low:	**$0.25** **$0.15**
12m Av Daily Vol (m):	**1.5**

Projects	**Stage**
Bankan	Resource Development

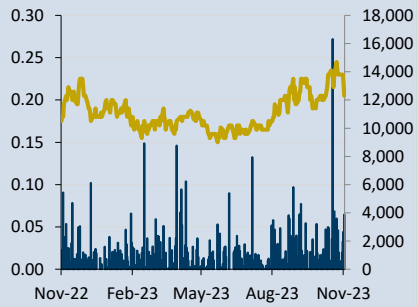
Mineral Resource	**Mt**	**g/t Au**	**Moz Au**
NE Bankan	88.3	1.7	4.8
Bankan Creek	12.2	1.2	0.5

Cashflows	**2022**	**2023**
Operating Cashflow	-23.0	-56.9
Investing Cashflow	-0.7	-0.5
Financing Cashflow	43.1	60.7
Cash Balance	42.0	44.9

Directors:	
Simon Jackson	Non-Executive Chairman
Andrew Pardey	Managing Director
Steven Michael	Non-Executive Director
Sandra Bates	Non-Executive Director

Substantial Shareholders:	**%**
Blackrock Group	13.8%
Capital DI Limited	10.4%
Phillip Richard Perry	6.1%

Share Price Graph and Trading Volumes



Quick Read

Bankan has continued to be one of the fastest growing gold projects in the world, recently releasing an MRE of 5.4Moz at 1.66g/t (77% Indicated), all from initial discovery drillholes in April 2020. Bypassing the scoping study, PDI are progressing directly to a PFS scheduled for Q1 CY24, which will include a maiden Ore Reserve. Pending completion and submission of the PFS and ESIA, an exploitation permit is targeted for mid CY24. With the bulk of the NEB drilling now complete, drill focus is shifting back to the many highly prospective regional and near resource exploration targets.

Overview

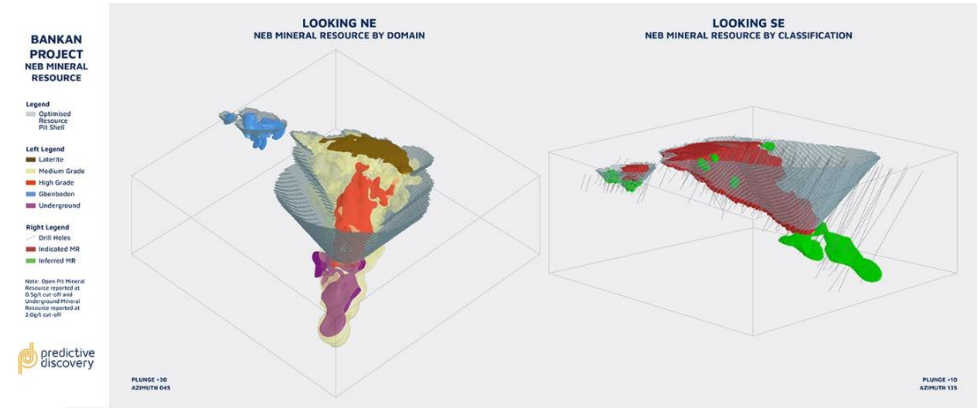
Risk and reward: NEB is in situated in the Outer Buffer Zone of the Upper Niger national park, and absence any change of decree, mining is not permitted. We detail this risk more extensively in our site visit research but emphasise that Guinea has a precedence of permitting in environmentally sensitive areas. We observed a high level of environmental degradation already present from slash and burn agriculture, livestock agriculture, and artisanal mining. Further to this, we cannot understate the quality and composition of the team PDI has brought together, as we observed strong community and stakeholder engagement. We are optimistic that PDI is well prepared to navigate this hurdle.

We also consider the political risk associated with the junta following the coup in 2021. Again, detailed further in our research, we note that the extractive industries contributed over 30% to Government revenues and over 18% to GDP, the benefits of which have historically not been unnoticed to any administrating Government, which has remained in favour of foreign investment. If the military junta continues to demonstrate transparency, improvements in corruption, and remains committed to democratic elections in 2025, a stable Government should hold.

Regional Upside: Regional and near resource targets are retaking drill focus, with a dedicated regional exploration team recently assembled. PDI has 35km of strike prospective tenure, with drill targeting assisted by geophysics. As previously demonstrated, any further discoveries can be defined rapidly.

Argonaut Mining Scenario and Valuation: Our valuation assumes a combined open pit and underground scenario. We model a 4Mt processing plant and a pre-production capital estimate of US$450M, comparable to the Endeavours Lafigué DFS, aware that the outcomes of the PFS could see this expand to 5-6Mtpa. Our valuation assumes a 15% Government free carry interest, 5% royalty to the Guinean government, a 1% royalty to a local development fund, and 30% tax on profits. We use a 10% real, after tax discount rate.

Figure 84: NEB Mineral Resource.



Source: PDI

98% (3.9Moz) of the NEB open pit classified as Indicated

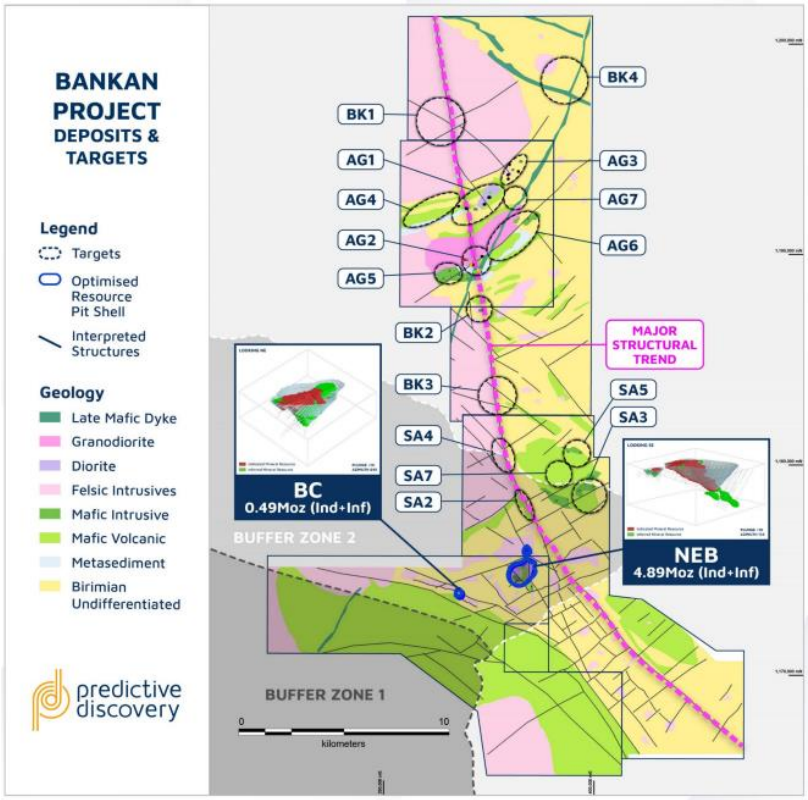
Figure 85: Bankan MRE.

Deposit	Classification	Cut-off (g/t Au)	Tonnes (Mt)	Grade (g/t Au)	Contained (Koz Au)
NEB Open Pit	Indicated	0.5	78.4	1.55	3,900
	Inferred	0.5	3.1	0.91	92
	Total		**81.4**	**1.53**	**3,993**
NEB Underground	Inferred	2.0	6.8	4.07	896
NEB Total			**88.3**	**1.72**	**4,888**
BC Open Pit	Indicated	0.4	5.3	1.42	244
	Inferred	0.4	6.9	1.09	243
BC Total			**12.2**	**1.24**	**487**
Total Bankan Project			**100.5**	**1.66**	**5,376**

Source: PDI

MRE estimation assumptions
- US$1800/oz gold price
- NEB Open Pit cut-off 0.5g/t Au
- NEB UG cut-off 2.0g/t Au
- BC Open Pit cut-off 0.4g/t
- Recovery of 94%

Figure 86: Deposits and targets at Bankan.



Source: PDI

NOT COVERED

Current Price $0.47

Ticker:	**SPR**
Sector:	**Metals & Mining**
Shares on Issue (m):	**877.9**
Market Cap ($m):	**412.6**
Cash Est. ($m)	28.2
Debt Est. ($m)	0.0
Enterprise Value ($m):	**384.5**
52 wk High/Low:	**$0.47** **$0.10**
12m Av Daily Vol (m):	**2.8**

Projects	**Stage**
Dalgaranga	Care & Maintenance
Never Never	Resource Development

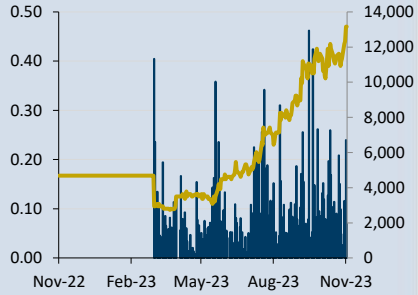
Mineral Resource	**Mt**	**g/t Au**	**Moz Au**
Murchison	21.9	2.0	1.43
Never Never	3.8	5.9	0.72

Cashflows	**2022**	**2023**
Operating Cashflow	25.2	-23.3
Investing Cashflow	-16.1	-15.4
Financing Cashflow	-1.7	42.4
Cash Balance	30.9	34.6

Directors:	
Rowan Johnston	Non-Executive Chair
Simon Lawson	MD & CEO
David Coyne	Non-Executive Director
John Hodder	Non-Executive Director
Hansjörg Plaggemars	Non-Executive Director

Substantial Shareholders:	**%**
Tembo Capital	18.6%
Deutsche Balaton	15.3%
First Sentier	6.5%
NRW Holdings	6.1%

Share Price Graph and Trading Volumes



Spartan Resources (SPR)

Never Never

Analyst: Patrick Streater

Quick Read

Spartan Resources (formerly Gascoyne Resources) makes an entry into Argonaut's BUP's book this year with its near-mine discovery of the Never Never deposit located at its Dalgaranga Gold Project in WA. In July this year Spartan 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. A discovery success story that's been rewarded by the market with SPR shares up +142% YTD.

Overview

Geology: Never Never is a structurally controlled high-grade shoot located at the northern end of the Main Gibley's deposit. Mineralisation is associated with intense sericite-silicia-pyrite alteration hosted within a volcaniclastic package with a strong mylonitic fabric. Mineralisation dips at 55degrees to the northwest in single continuous lode with an average thickness of 20-30m and a strike of 150m. Spartan reports an average of 1,590 ounces per vertical metre across for the Never Never underground MRE which suggests strong cashflows once in production.

Intercepts Say it all: The last 12-months as seen a steady flow of wide and high-grade intercepts reported at Never Never including:

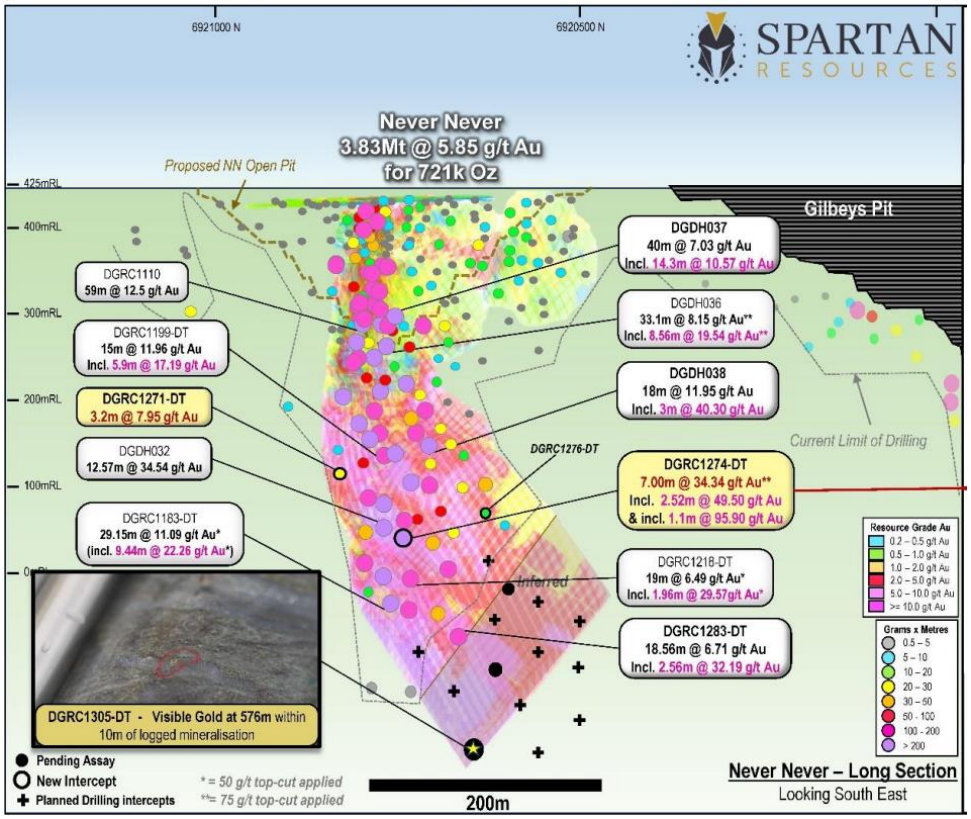
- 59m at 12.0g/t Au from 138m
- 12.58m at 34.5g/t Au from 397.42m
- 54m at 6.5g/t Au from 116m
- 18.54m at 17.9g/t Au from 319m
- 50m at 6.5g/t Au from 144m

Existing Mill Ready to go: The Never Never discovery is located ~600m from the relatively new Dalaranga Mill that's been placed on care-and-maintenance since November 2022. Along with other mining infrastructure already in place, Spartan are well placed to bring Never Never into production within minimal upfront capex relative to other development projects.

Pathway to Production: The 721Koz Never Never deposit will provide the baseload feed for a Dalgaranga Restart with the mill likely to operate at a scaled back capacity of 1.6-1.7Mtpa. Spartan's current focus is drill testing several Never Never "look-a-like" targets along strike of Never Never. Additional discoveries along strike will enable Spartan to operate at multiple production fronts assisting in keeping the Dalgaranga Mill fed. Spartan are scheduling a Restart Study for CY24 to outline what a Never Never mining scenario will encompass.

Figure 87: Long Section of Never Never discovery as of 2nd Nov-23.

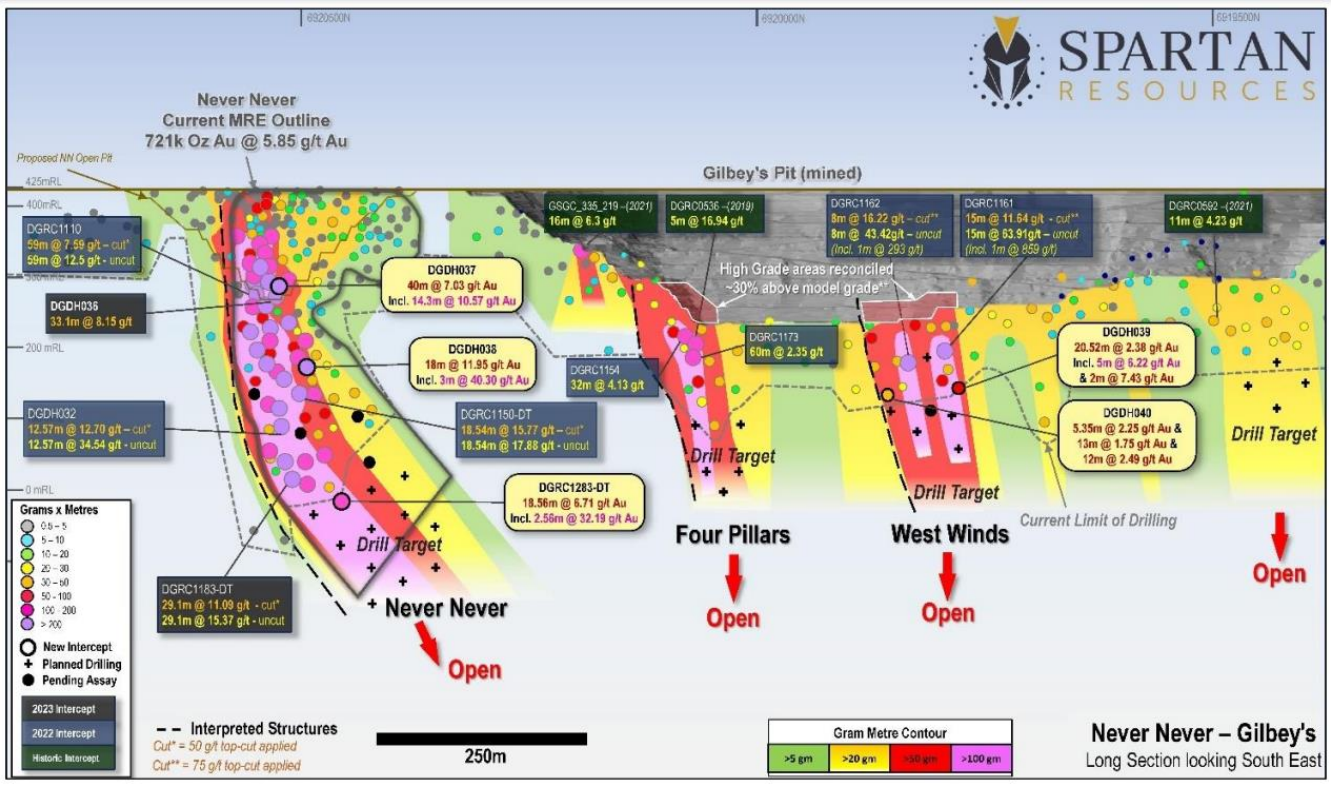
Never Never - discovery with excellent widths and continuity



Source: SPR

Spartan looking for Never Never repeats under the existing Gibley's Pit

Figure 88: Long section of Never Never Discovery and potential repeats under the Gibleys Pit.



Source: SPR

WA1 Resources (WA1)

Luni

Analyst: George Ross

SPEC BUY

Current Price	$10.20
Valuation	$10.04

Ticker:	**WA1**
Sector:	**Metals & Mining**
Shares on Issue (m):	**56.7**
Market Cap ($m):	**578.7**
Cash Est. ($m)	22.9
Debt Est. ($m)	0.0
Enterprise Value ($m):	**555.8**
52 wk High/Low:	**$10.97** **$1.03**
12m Av Daily Vol (m):	**0.5**

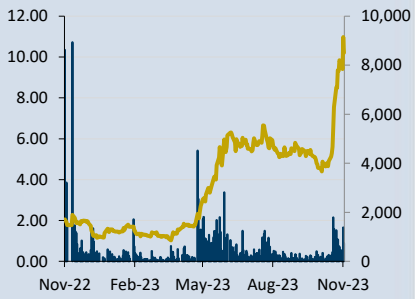
Projects	**Stage**
Luni	Resource Development

Cashflows	**2022**	**2023**
Operating Cashflow	-0.7	-1.1
Investing Cashflow	-0.5	-6.7
Financing Cashflow	4.7	19.1
Cash Balance	3.7	15.0

Directors:	
Gary Lethridge	Non-Exec Chairperson
Paul Savich	Managing Director
Tom Lyons	Executive Director
Rhys Bradley	Non-Exec Direc & Co. Sec

Substantial Shareholders:	**%**
Tali Resources	15.8%
Lucid Investment Group	7.3%
Ryecroft Holdings	6.3%
Regal	5.7%

Share Price Graph and Trading Volumes



Quick Read

WA1 Resources' early-stage Luni niobium discovery displays the hallmarks of a globally significant deposit. Better mineralised intervals intersected to date include 40m at 3.1% Nb_2O_5 and 10m at 8.3% Nb_2O_5. Argonaut's current model estimates an inventory of 20Mt grading above 2.6% Nb_2O_5.

Niobium

Niobium's unusual physical properties unlock remarkable enhancements in other materials. In 2021, global niobium production was approximately 110kt of Ferroniobium (FeNb) equivalent material and is expected to reach as high as 130kt in 2023. Market supply is dominated by CBMM, a private Brazilian corporation that holds approximately 85% of the niobium market share. Market demand has traditionally been driven by usage in High-Strength, Low-Alloy steel (HSLA), and other uses include aerospace and specialty alloys. Recent technological advances in the battery space have spurred a new wave of demand. The integration of niobium within lithium battery anode and cathode materials has been proven to drastically improve recharge time and cycle life. Niobium-based batteries could revolutionise the electric vehicle market by eliminating the weaknesses of current battery technologies. For more information, please refer to our Supermetal niobium sector report.

Overview

Location & Tenure

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

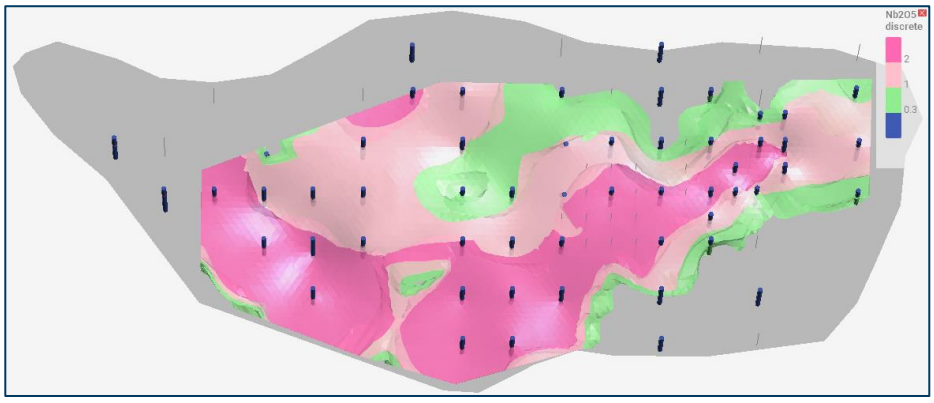
Deposit & geology

Mineralisation is associated with a carbonatite intrusive body measuring approximately 3km x 2km. Better-grade mineralisation 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 mineralisation 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.

Argonaut has high expectations for the Luni deposit

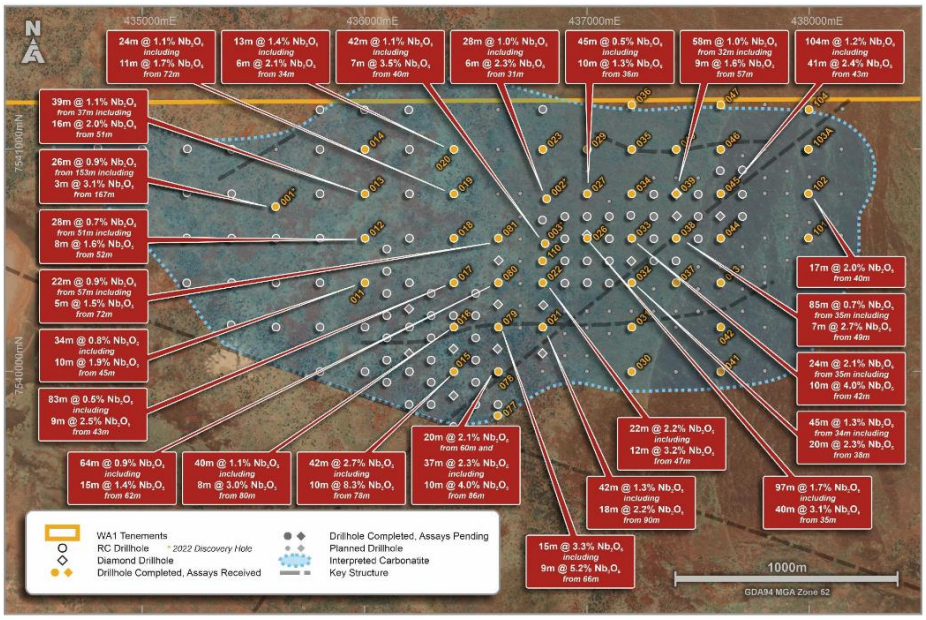
Figure 89: Argonaut's Luni Leapfrog model at 8 November 2023.



Source: Argonaut

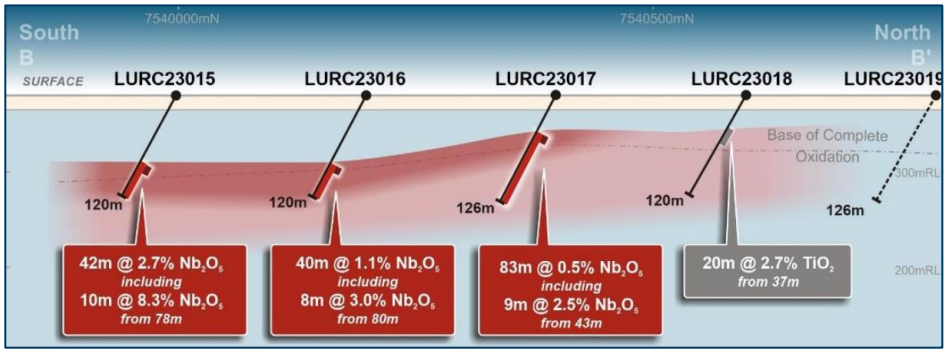
Drilling results received to date have impressed

Figure 90: Luni deposit area with drilling results.



Source: WA1

Figure 91: Example Luni cross section showing drilling results.



Source: WA1

SPEC BUY

Current Price	$0.04
Valuation	$0.13

Ticker:	**WIA**
Sector:	**Metals & Mining**
Shares on Issue (m):	**920.7**
Market Cap ($m):	**33.1**
Cash Est. ($m)	10.1
Debt Est. ($m)	0.0
Enterprise Value ($m):	**23.0**
52 wk High/Low:	**$0.05 $0.02**
12m Av Daily Vol (m):	**1.0**

Projects	**Stage**
Kokoseb	Resource Development

Mineral Resource	**Mt**	**g/t Au**	**Moz Au**
Kokoseb	41.0	1.0	1.3

Cashflows	**2022**	**2023**
Operating Cashflow	-0.8	-0.7
Investing Cashflow	-6.3	-6.5
Financing Cashflow	4.3	6.2
Cash Balance	2.3	1.2

Directors:	
Andrew Pardey	Non-Executive Chair
Steven Michael	Non-Executive Director
Mark Arnesen	Non-Executive Director
Stuart McKenzie	Joint Co. Sec.
Christopher Knee	Joint Co. Sec.

Substantial Shareholders:	**%**
Capital DI Limited	19.9%
BPM Investments	9.6%

Share Price Graph and Trading Volumes

Wia Gold (WIA)

Kokoseb

Analyst: Patrick Streater

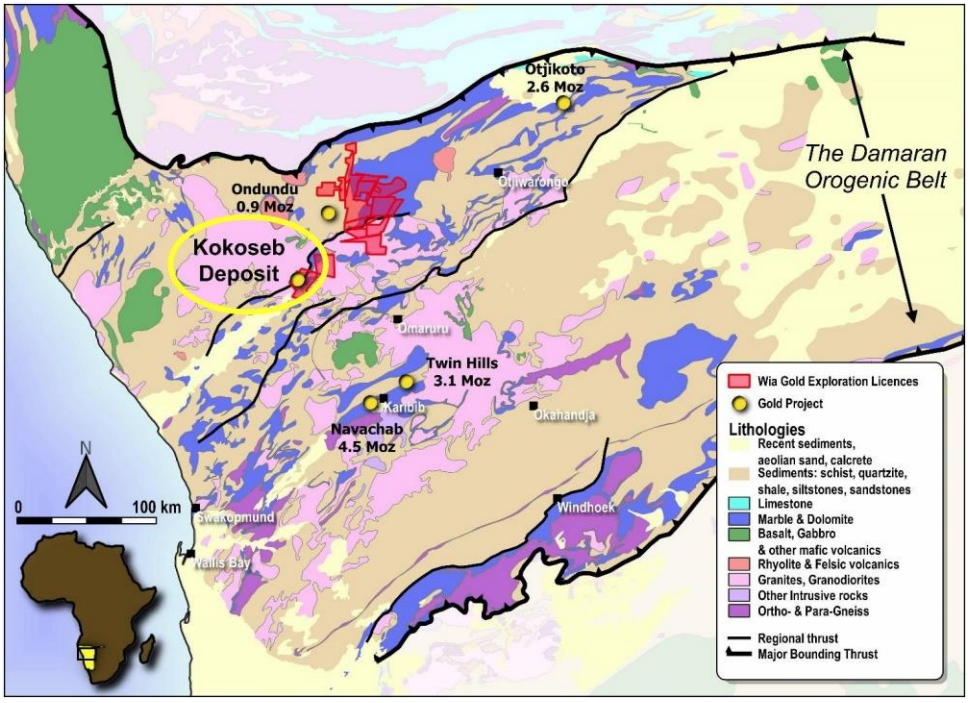
Quick Read

Wia Gold is making rapid progress with the Kokoseb discovery that produced a maiden MRE this year of 41Mt at 1.0g/t Au for 1.3Moz. Argonaut anticipates a base case target of 2Moz of resources for Kokoseb. Wia Gold has been busy with up to 5 rigs on site in the last couple of months to drill out the discovery.

Overview

Location: Kokoseb is located in the Damaran Belt of Nambia which is an emerging mining province with a supportive and stable government combined with favourable infrastructure. Existing operations in the region include B2Gold with its Otjikoto Mine (190-210KOz/pa) and Osino Gold with its Twin Hills and Ondundu development projects.

Figure 92: Location of the Kokoseb deposit, Namibia.



Source: WIA

Geology and Resource

Kokoseb was discovered in June 2022 with the maiden drill program delivering shallow moderate-grade intercepts over significant strike extents. Multiple drilling programs since have defined mineralisation over a 6km structure that runs along the margin of a 2km wide granitic pluton. Mineralisation remains open at depth and along strike for most sections of the deposit. Initial pit optimisations completed by Wia were able to capture the 1.3Moz resource entirely within a US$1,1800/oz pit shell, constrained at depth by lack

of drilling. Mineralisation is hosted within a folded schist unit and dips moderately to the west and northwest. A highlight of significant intercepts reported to date include:

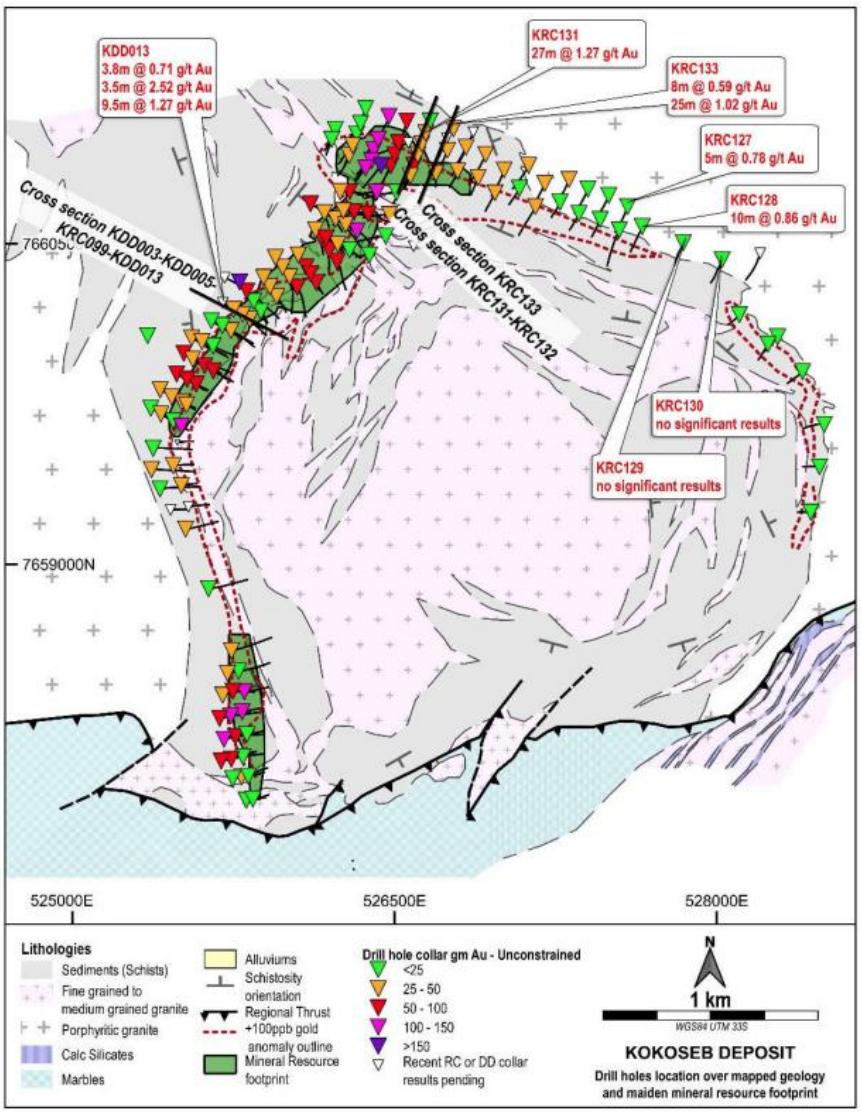
- 42m at 1.57g/t Au from 37m (KRC012)
- 29m at 1.96g/t Au from 80m (KRC022)
- 31m at 3.37g/t Au from 77m (KRC067)
- 26m at 2.02g/t Au from 74m (KRC036)

Mineralisation outcrops at surface or is covered by 1-2m of barren alluvium.

Ongoing drilling at Kokoseb continues with a focus on resource conversion and extensional drilling of the May 2023 1.3Moz MRE. Drilling completed since June 2022 has totalled over 28,000m with further drilling still required to close off mineralisation along strike and at depth. Initial metallurgical testing for Kokoseb indicates recovery is amenable to conventional CIL processing with recovery rates of 91% returned from two bulk composite samples submitted. Still early days for Kokoseb but the rapid growth rate of the MRE is encouraging and points to a potential stand-alone operation via large-scale open pit mining with straight forward CIL processing.

Drilling is yet to define the extents of the Kokoseb discovery

Figure 93: Map of the Kokoseb discovery with all completed drilling.



Source: WIA

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ESG considerations in Argonaut research

ESG-related attributes or risks are impacting investment attractiveness, cost of capital, and valuation. The ESG ratings and analysis industry is evolving and characterised by numerous reporting frameworks and measurement practices, but ESG related issues can't be ignored.

Our approach to ESG focuses on commitment, industry, and reporting

Where ESG/sustainability risks are high relative to company size/maturity, we consider an appropriate adjustment to the discount rate, valuation and/or opinion to reflect this risk.

It is a largely subjective approach on the back of three basic questions:

- *Commitment:* Is the Company convincing and does it "walk the talk"?
- *Industry:* How ESG friendly is the industry or sector in which it operates?
- *Reporting:* How well does the Company report on these ESG issues?

We subjectively assess a broad range of attributes

Table 17: Argonaut's ESG approach. This is not all inclusive and we do not purport to provide a rating or include all the factors that may be considered in a full ESG ratings report

Measure	Selected Analysis factors	View
Commitment, operational delivery & risk mitigation	Largely subjective: • Visible efforts to embrace a more sustainable future • Nature of operations, jurisdiction and environmental impact • Comparison to peers in the same industry/sector • Efforts to mitigate identified risks • Engagement with stakeholders • Corporate governance considerations and good citizenship • Diversity, equality, and inclusion • Company actions supportive of aspirational targets • Energy usage and efforts to mitigate climate risks • Any reported ESG-related/corporate governance issues	Positive Neutral Negative
Industry/Sector sustainability	Largely subjective: • Commodity/product/service contribution to sustainable future • Industry/sector/business model resilience as pertains to ESG factors • Sector energy intensity and/or carbon emissions • Downstream/supply chain impact on sustainability	Positive Neutral Negative
Company ESG reporting	Largely objective (but in context of company size/maturity): • Sustainability/corporate governance report/audit • Availability of data to back up narrative (emissions, water usage etc.) • Reference to ESG-related framework (GRI, SASB, TCFD, UN SDGs, MSA) • Rating from a recognised global ESG ratings agency	Detailed Acceptable Limited

Source: Argonaut

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Important Disclosures

Ausgold Ltd (AUC): Argonaut acted as Lead Manager to the Placement to raise $12M in April 2023 and received fees commensurate with this service. Argonaut holds or controls 30M options exercisable at $0.06 expiring 31 March 2025.

Auteco Minerals Ltd (AUT): Argonaut Securities Pty Ltd is acted as Co-Manager to the Placement to raise up to $50M announced in August 2023 and received fees commensurate with this service. Argonaut Securities Pty Ltd acted as Co-Manager to the Placement to raise up to $10M in January 2023 and received fees commensurate with this service. Argonaut holds or controls 4,600,000 AUT shares.

Centaurus Metals Ltd (CTM): Argonaut Securities Pty Ltd acted as Joint Lead Manager and Joint Bookrunner in respect of the Placement to raise approximately $35M announced in July 2023 and received fees commensurate with this service. Argonaut holds or controls 604,189 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 $300M Placement announced on 28 September 2023 and will receive fees commensurate with these services.

Evolution Energy Minerals Ltd (EV1): Argonaut Securities Pty Ltd acted as Joint Lead Manager & Joint Bookrunner to the $4M Placement announced on 6 October 2023 and received fees commensurate with these services.

Global Lithium Resources Ltd (GL1): Argonaut Securities Pty Ltd acted as Global Coordinator, Joint Lead Manager and Joint Bookrunner and Argonaut PCF Limited acted as Underwriter in respect of the Placement to raise $121.5M announced on 25 October 2022 and received fees commensurate with this service. Argonaut holds or controls 13,336 GL1 shares and 4,493,114 GL1 options exercisable at $0.30 expiring 10 May 2025.

Lunnon Metals Ltd (LM8): Argonaut Securities Pty Ltd acted as Joint Lead Manager in respect of the Placement to raise up to $18M in August 2023 and received fees commensurate with this service. The 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 275,200 LM8 shares.

New World Resources Ltd (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. Argonaut holds or controls 2,700,000 NWC shares.

NexGen Energy Ltd (NXG): Argonaut holds 17,892 NXG shares.

Northern Minerals Ltd (NTU): Argonaut acted as Joint Lead Manager to the Placement to raise $25M in August 2023 and received fees commensurate with this service.

Patriot Battery Metals Inc. (PMT): Argonaut holds or controls 80,000 PMT shares.

Predictive Discovery Ltd (PDI): Argonaut acted as Co-Manager to the Placement to raise $40M in May 2023 and received fees commensurate with this service.

WIA Gold Ltd (WIA): Argonaut Securities Pty Ltd acted as Lead Manager & Sales Agent to the pro-rata non-renounceable entitlement offer to raise up to approximately $11M announced in July 2023 and received fees commensurate with this service. Argonaut owns or controls 5,333,332 WIA shares and 1.5M WIA01 Options exercisable at $0.05 and 1.5M WIA02 exercisable at $0.10 on or before 30 September 2024.

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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
The Natural Choice in Resources

Argonaut PCF
(Financial Advisory & Corporate Finance)

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

Argonaut Securities
(Stockbroking & Research)

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

Argonaut Partners
(Special Situations Financing)

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

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

Australasia's Leading Natural Resources Financial Adviser

ARGONAUT
The Natural Choice in Resources

Kalium Lakes **$30,750,000** Receiver Advice, DiP Funding & Potential Sale *Financial Adviser* Announced	**Technology Metals** **$217,000,000** Scheme of Arrangement with Australian Vanadium Limited *Joint Financial Adviser* Announced	**De Grey** **$689,400,000** Placements & Sell Down *Joint Lead Manager & Joint Underwriter* 2020 - 2023	**Westgold Resources** **$177,300,000** Off Market Takeover Bid for Musgrave Minerals (Incomplete) *Financial Adviser* 2023	**Centaurus Metals** **$122,000,000** Placements *Joint Lead Manager* 2022 - 2023
Predictive Discovery **$95,000,000** Placements *Joint Lead Manager & Co-Manager* 2022 - 2023	**AIC Mines** **$70,000,000** Placements *Joint Lead Manager* 2021 - 2023	**Catalyst Metals** **$66,000,000** Off-Market Takeover of Vango Mining *Financial Adviser* 2023	**Auteco Minerals** **$64,000,000** Placements *Co-Manager* 2022 - 2023	**Catalyst Metals** **C$55,000,000** Merger with Superior Gold via Canadian Plan of Arrangement *Financial Adviser* 2023
Lunnon Metals **$48,000,000** Placements *Joint Lead Manager* 2022 - 2023	**Novo Resources** **$47,500,000** Initial Public Offering, Strategic Investments and Joint Venture Agreements *Financial Adviser & Lead Manager* 2022 - 2023	**Catalyst Metals** **$40,000,000** Placements *Joint Lead Manager* 2020 - 2023	**Northern Minerals** **$25,000,000** Placement *Joint Lead Manager* 2023	**NexGen Energy** **US$20,000,000** At-the-Market Equity Facility *Arranger* 2023
New World Resources **$16,000,000** Strategic Placement & Royalty Finance *Financial Adviser* 2023	**Wia Gold** **$11,000,000** Entitlement Offer *Lead Manager* 2023	**Kairos Minerals** **$10,500,000** Strategic Investment & Underwritten Placement *Financial Adviser & Joint Lead Manager* 2023	**Global Lithium** **$181,500,000** Placement, SPP and acquisition of remaining 20% of Manna Project *Global Coordinator, Joint Lead Manager & Financial Adviser* 2022	**Bardoc Gold** **$157,000,000** Takeover Defence, Scheme of Arrangement & Demerger *Financial Adviser* 2022

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