

BRIEFING NOTE

52 Wk. Lo/Hi

0.02 – 0.07



IXR (lighter line) ASX market vs price relative

Monday, 21 March 2022

Close Price	0.06
52 wk Range Low	0.02
52 wk Range High	0.07
MCAP (m)	\$204.65
EV (m)	\$193.60
Index: Public	ASX
Financial YE	30-Jun
Currency	AUD

Business Activity

Mining E&P

Key Metrics

Gross debt (m)	\$0.05
Cash (m)	\$7.24
Net Debt (Cash) (m)	-\$7.19
Net Operating Cash (m)	-\$2.18
Revenue (m)	\$0.21
Net Income (loss) (m)	-\$3.60

Key Ratios

(Net Cash) / Shareholder Equity %	-3.51%
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Mining Sector Research

ASX Market Index

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Ionic Rare Earths Ltd.

Core Investment Case

Ionic Rare Earths Ltd (ASX:IXR) is an exploration stage rare earths mining company in Uganda. Rare earth metals primary use is in the production of permanent magnets – key components of clean energy applications (wind turbines and electric vehicles). IXR's flagship Makuutu Rare Earths project is significant given its clay-hosted geology, which is similar to that found in projects in Southern China, main global supplier of Heavy Rare Earths. Makuutu has a current mineral resource estimate of 315 Mt @ 650 ppm Total Rare Earth Oxide (TREO). The Apr 2021 scoping study indicated a potential to produce Heavy Rare Earth Oxide (HREO) and Critical Rare Earth Oxide (CREO) at a low capital development cost. Ionic Rare Earths currently holds 51% interest in Makuutu project.

- Exploration rare earths metals mining co. -unique geology;
- Feasibility study to increase Makuutu ownership to 60% vs. 51%;
- Phase 4 to increase mineral resource estimates by 2Q22E;
- Cash & CE 1H22A (31 Dec 2021) A\$ 7.2m.

AUD (m)	MCAP	EV	RoA %	RoE %	NCO	Levered FCF
2021	204.65	193.60	-17.62%	-29.22%	-2.2	-6.8
Multiples	EV/ Revs	P/ S	Trail PE	BV/ Share	P/ B	Current
2021	N/A	N/A	N/A	0.00	11.39x	10.1x

Investment Case

Rare earths explorer for clean energy technologies, e.g. wind turbines and electric vehicles (EVs). Low-cost, high value rare earths project and strategic asset – The Makuutu project provides an advanced stage, low-cost (low AISC) high value heavy rare earths development opportunity. A key advantage of the Makuutu project is its geology Ionic Adsorption Clay (IAC) mineralization.

Makuutu's geology is similar to projects located in Southern China where the cheapest and most readily available sources of Heavy Rare Earth Oxides (HREO) are extracted. ~95% of the global supply of Heavy Rare Earths originate from clay-hosted mines. The Makuutu project is easily accessible via highways and roads, has reliable high grade power infrastructure, rail connectivity, mobile connectivity and readily available sources of water.

Scalable economic deposits: The Makuutu project scoping study from Apr 2021 confirms strong cash flows and IRR. The base case indicates an initial life of mine (LOM) of 11 years and a post-tax-free cash flow of US\$ 1.02bn. EBITDA generated during this period is estimated at US\$ 1.7bn. The base case assumes a production of ~84.5 Mt @ 810 ppm of TREO vs. the overall resource estimate of 315 Mt @ 650ppm, suggesting significant upside potential.

Makuutu basket highly sought after: Makuutu presents one of the best-balanced Rare Earth Oxide (REO) baskets vs. other projects globally. ~73% of the basket is HREO and CREO dominant, over the initial 11-year LOM, providing Ionic with a competitive advantage given the increasing demand and limited supply of critical metals. In addition, Makuutu's basket contains critical raw materials (e.g. cobalt, platinum, neodymium, etc.), used in carbon neutral technology manufacturing and emissions reduction (catalytic converters).

Significant exploration upside: The company has indicated there is scope for further exploration upside, which could lead to an upward revision of the mineral resource estimate. The P4 infill drilling program, completed in Oct 2021, recorded an indicated resource at Makuutu of 250 Mt. The updated mineral resource estimates (MRE) expected in 2Q22 from P4 and the completion of the Bankable Feasibility Study (BFS) est. 3Q22, will facilitate the Mining License Application (MLA) submission in 2H22 – potential for additional targets.

Catalysts

Mining license application permits; expansion resource estimates; rising critical metals prices; clay-hosted geology; transition to global renewable economy.

Operational Strategy

Ionic is focused on moving forward with the Makuutu project and the completion of the Bankable Feasibility Study (BFS) in 3Q22E.

The BFS will facilitate the submission of the MLA in 2H22E and construction in the mining plant is scheduled for 1Q23E with **production scheduled for early 2024E**.

The Phase 4 infill drilling program, completed in Oct 2021, results are crucial to increasing the mineral resource estimate (MRE) at Makuutu – the material increase in the measured and indicated resource base supports the BFS. Completion of BFS will entitle Ionic to a 60% ownership of Makuutu (vs. 51% currently).

Ionic won a new Exploration License Application in July 2021 with the aim of increasing its exploration area. The license will permit the company to conduct exploration activities beyond the currently licensed area and increases the potential for further discovery, subsequently leading to a higher mineral resource estimate.

Ionic is ESG focused. Its BFS includes an Environmental and Social Impact Assessment (ESIA) – a key document for environmental approval – expected completion 1Q22E. The company is fully compliant with Ugandan environmental protection laws – National Environment Act 1995 and local government regulations.

Management Team

➤ **Chairman, Trevor Benson.**



Trevor has over 30 years' experience in investment banking (IB) and stockbroking in the resources sector. Trevor's IB specialty was primarily in SE Asia (incl. China) and focused on M&A and equity transactions. Trevor has also worked with Australian and other international companies and has held a number of directorships with ASX listed companies.

➤ **Managing Director, Tim Harrison.**



Tim has over 20 years' experience as a chemical engineer and metallurgist with a specialty in mineral processing and hydrometallurgy across a range of commodities. Tim was appointed MD of Ionic in Dec 2020 and prior to this was appointed CEO in June 2020. Tim joined Ionic as Project Manager of Makuutu Rare Earths Project in 2020 to drive development and value creation.

Risks

Project development risk – This includes failure to complete scaling, delay in the updated MRE and failure to conclude a definitive feasibility study.

Commodity price risk – IXR is highly exposed to commodity price volatility. A potential fall in commodity prices could lead to its projects becoming economically unviable. Risk mitigation steps could include measures to hedge risk including steps such as stockpiling when prices are low and price hedging when prices rise above expectations. The extraction of rare earths through mining is considered costly and relatively inefficient as a small amount of product requires large volumes to be mined. As a result, prices are high to compensate, which may suppress demand or encourage research into substitutes.

Funding availability – Mining is a capital-intensive business and requires a significant amount of investment as well as working capital. If the company is unable to raise capital for its exploration and development activities, it will adversely impact the timelines for its projects. Also, too much new equity (raising money via issuing equity) will lead to dilution while debt funding will increase interest cost thereby putting further pressures on cash flows. We estimate that in 2021 AUM \$30trn were formerly inaccessible to companies without an ESG with metrics. We believe the AUM filtered informally at this time using ESG filters is far in excess of AUM \$30trn.

Regulatory risk – Mining projects tend to attract high regulatory interest given their impact on the environment as well as on the country's natural resources. IXR's assets are in Africa, which has extensive country specific laws and regulations. Failure to comply with them could lead to delay or complete shutdown of the development of the assets. IXR is ESG focused but does not have an ESG policy on its website or use big data collection and analysis at this time. Big data collection and analysis can reduce several risk types and wastage.

Personnel risk - Small and mid-sized companies are more dependent on their C-suite/executive management teams than large and mega-cap global companies. The loss of key personnel can have a disproportionate impact on valuation and investor perception compared to similar events at larger more mature (often ex-growth) companies.

Political risk – China dominates REE processing. The ongoing geopolitical tensions are already weaponizing commodities and the continuation of the Russian/Ukraine war could affect relations with China reducing the ability to find processing centres for sales of rare earths.

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