

HANNANS

Annual General Meeting

www.hannans.com

ASX:HNR

26 November 2021

ersonal use only

Summary

Hannans vision is to sustainably produce metals for society by:

- recycling lithium batteries in the Nordic region; and
- discovering critical minerals in Western Australia.

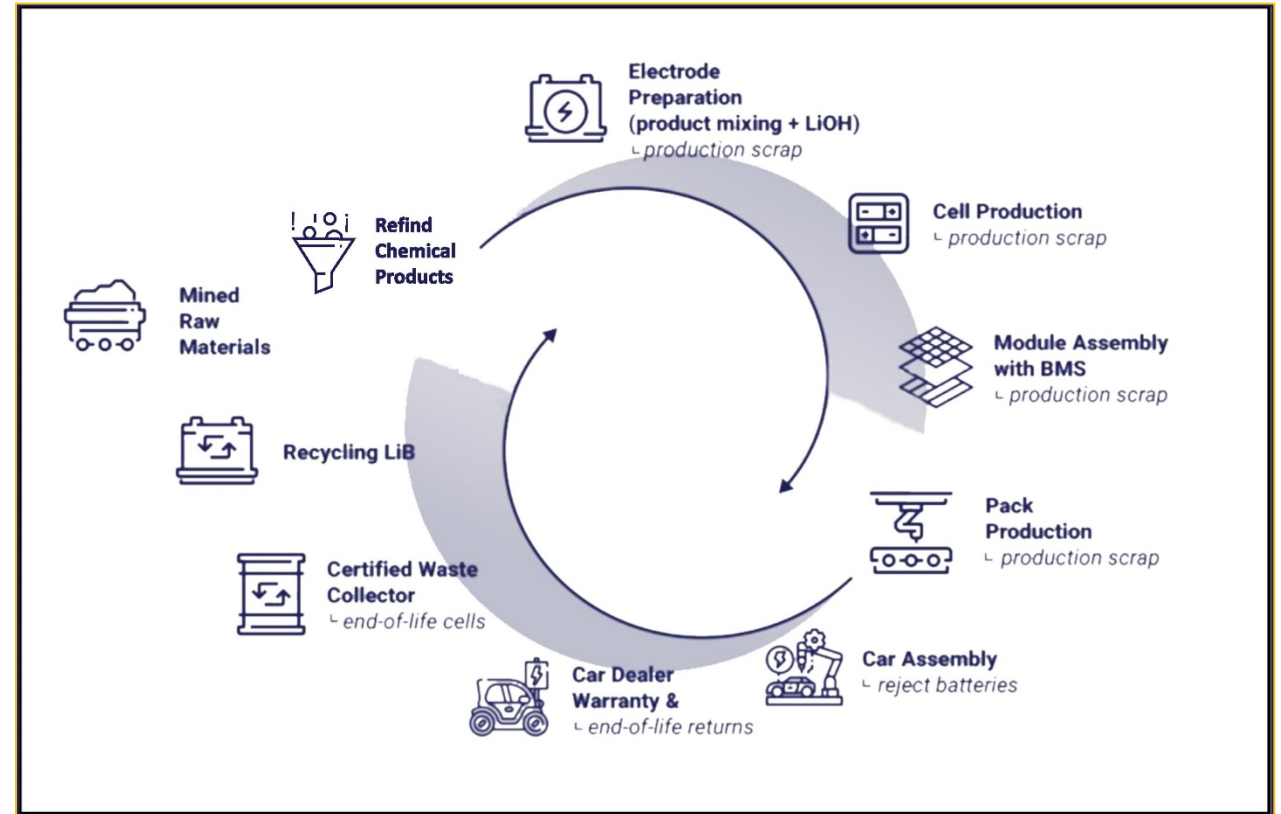




Our focus is firmly on rapid growth, critical minerals and energy storage

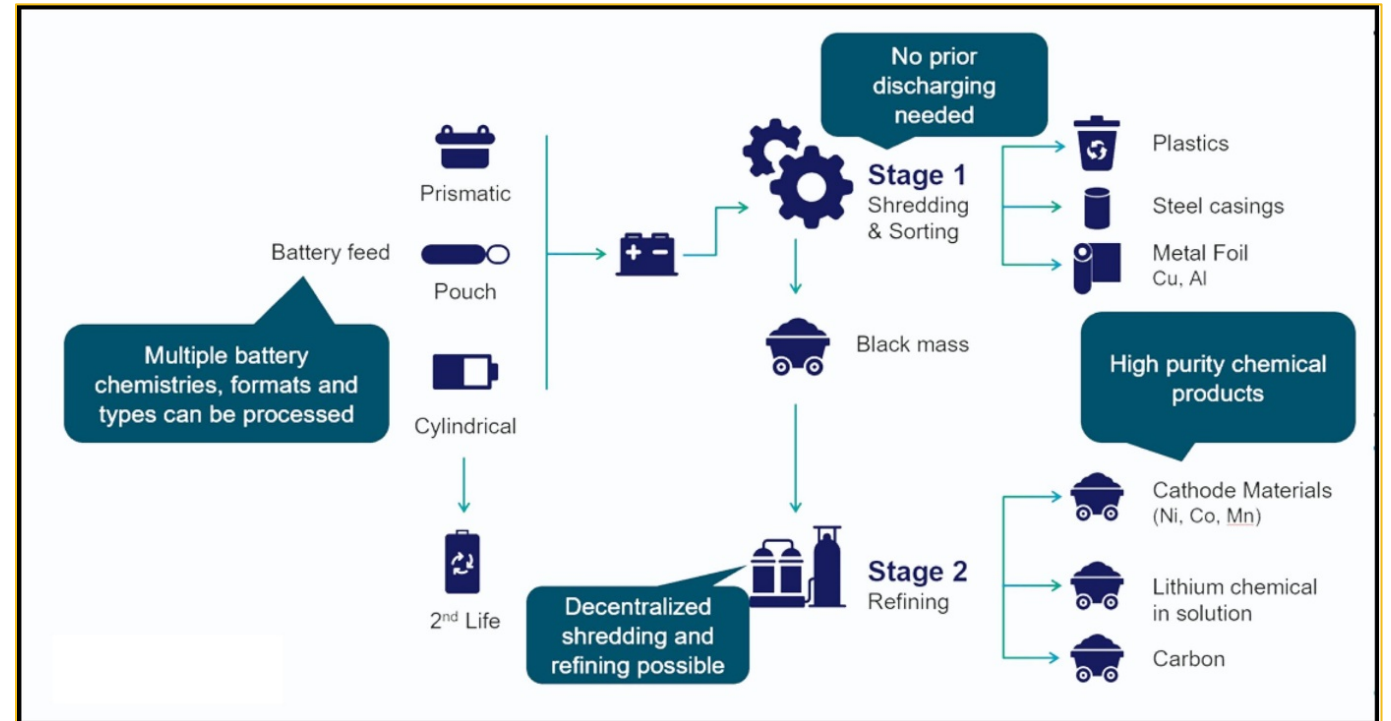
What is LiB Recycling?

- Lithium-ion batteries (LiB) are energy storage devices comprising several metals including nickel, cobalt, lithium and manganese (and others).
- If not handled correctly LiB explode, are flammable and toxic.
- LiB recycling involves shredding, sorting and refining to make the batteries safe and to recover valuable metals for reuse.
- LiB recycling using environmentally and socially acceptable processes is the only way.



LiB Recycling Technology

- Shredding and sorting (Stage 1) and refining (Stage 2) components of the technology are capable of processing multiple LiB chemistries, formats and types.
- Stage 1 products include mixed cathode and anode “black mass” plus steel, plastic and foil.
- Stage 2 products include high purity battery chemicals including nickel, cobalt, lithium and manganese sulphates.



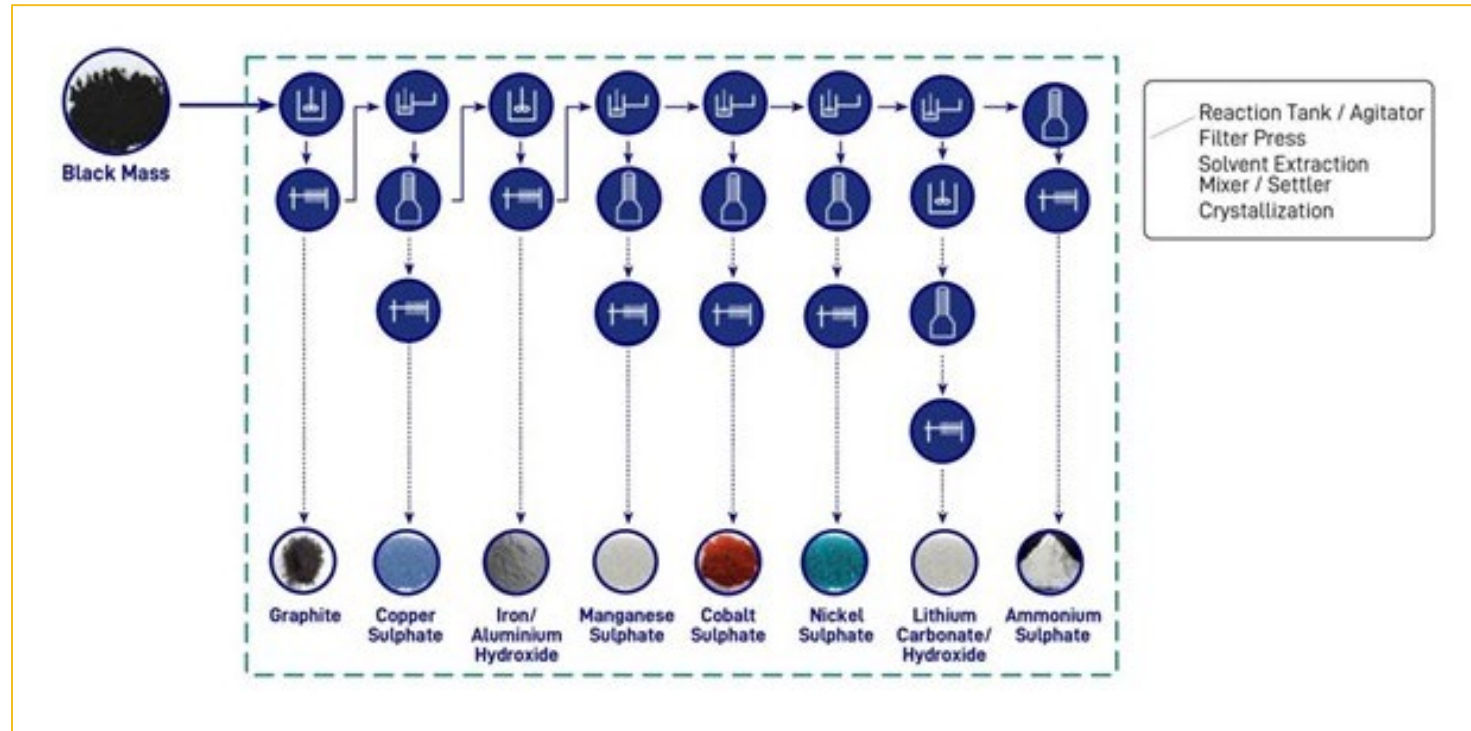
What's recovered from a LiB?

By weight an LiB generally comprises:

- Cathode: 30%
- Anode: 15%
- Electrolyte: 10%
- Aluminium & copper: 35%
- Steel case, binders and plastics: 10%

Elemental breakdown of an LiB is generally:

- Lithium: 7%
- Oxygen: 33%
- Ni/Mn/Co (811): 48%/6%/6%
- Ni/Mn/Co (622): 36%/11%/12%



EU security of supply

- Europe Union (EU) does not have enough battery metals to meet its growth ambitions.
- Every source of battery metals will be retained in the EU and the loop will be closed.
- Security of raw material supply and the circular economy are key themes for the EU.
- LiB recycling focus in the short-medium term is on scrap LiB from the cell manufacturing process.

Nordic sweet spot

- Four Gigafactories planned in the Nordics means access to scrap is a possibility
- Strong connection with social and environmental responsibility
- Strong recycling culture
- Strong legislative regimes
- Limited access to battery metals from mining
- Focussed on circular economy and recycling to ensure supply chain resilience.

Market	EV (000s)	EV mix (%)
Germany	368	23
France	163	16
UK	153	15
Italy	80	8
Norway	78	83
Sweden	76	40
Denmark	30	28
Finland	18	28
Total	202	

Table: West European new plug-in passenger car registrations January – July 2021.
Combines both battery EVs (BEV) and Plug-in hybrid EVs (PHEV)

LiB recycling winners

- **Hydrometallurgical recycling process:** high recoveries, low GHG emissions, low H₂O consumption, format agnostic.
- **Secure LiB feedstock supply:** Short to medium term will come from Gigafactory scrap.
- **Scalable:** must be scalable, ramp up quickly to handle scrap now and end of life in the future, leads to increased profitability and improved margins.

Proposed News Flow – LiB Recycling *

Deliverable	Date
Hannans shareholders vote on transaction	26 November 2021
Source LiB feedstock	1 st Quarter 2022
Obtain permits to operate 1 st Plant	4 th Quarter 2022
Consider final investment decision	4 th Quarter 2022
Commence construction of 1 st Plant	4 th Quarter 2022
Start-up 1 st Plant	4 th Quarter 2023

* Subject to change

Critical Minerals

Strategy

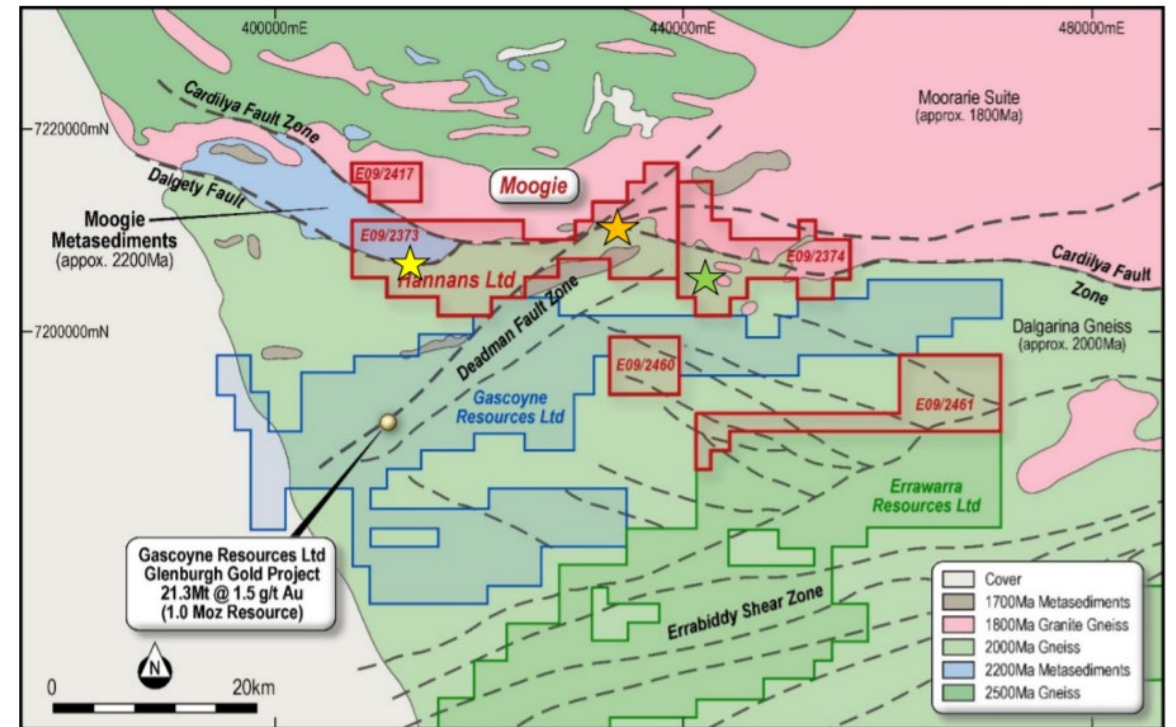
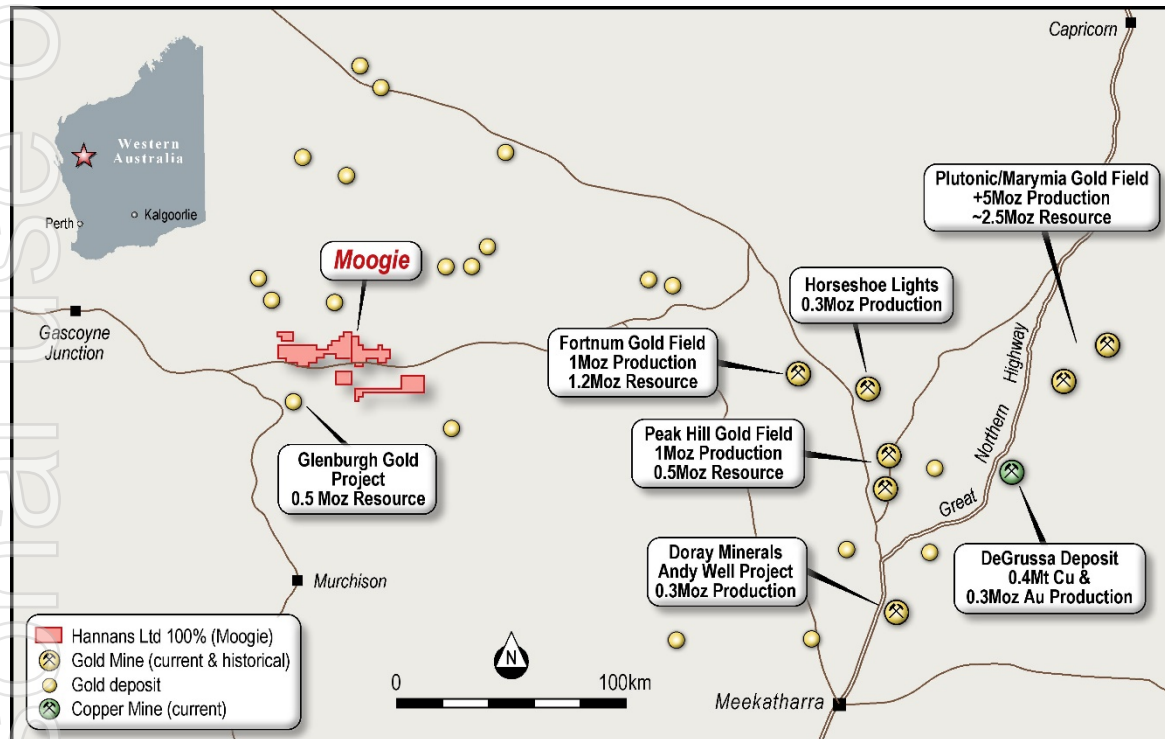
- New and emerging provinces at margin of Yilgarn Craton:
 - **Moogie**, Nickel, Copper & Gold (100%)
- Producing regions:
 - **Fraser Range**, Nickel & Copper (earning 70% & 100%)
 - **Forrestania**, Nickel (100%), Gold (20% free carried)
- Corporate
 - **Acquisition or joint venture** of Western Australian nickel sulphide projects with economic potential



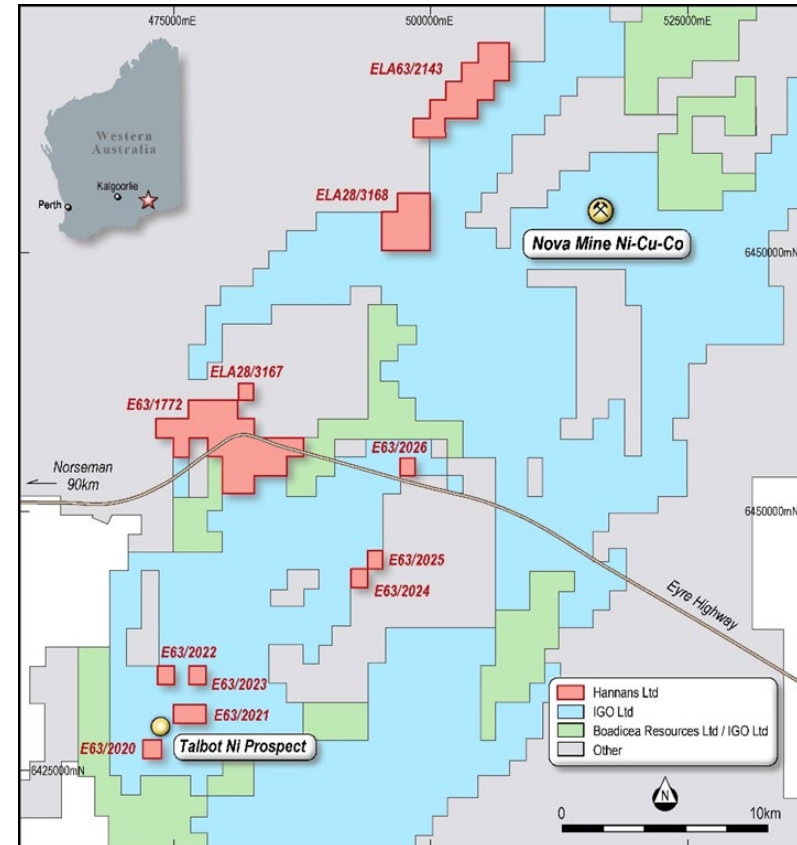
Critical Minerals

Moogie Nickel, Copper & Gold (100%)

- Next steps: detailed helicopter-borne EM survey (Breccia, Minni Ritchi and Ghallangee prospects) and complete mapping and geochemical coverage.



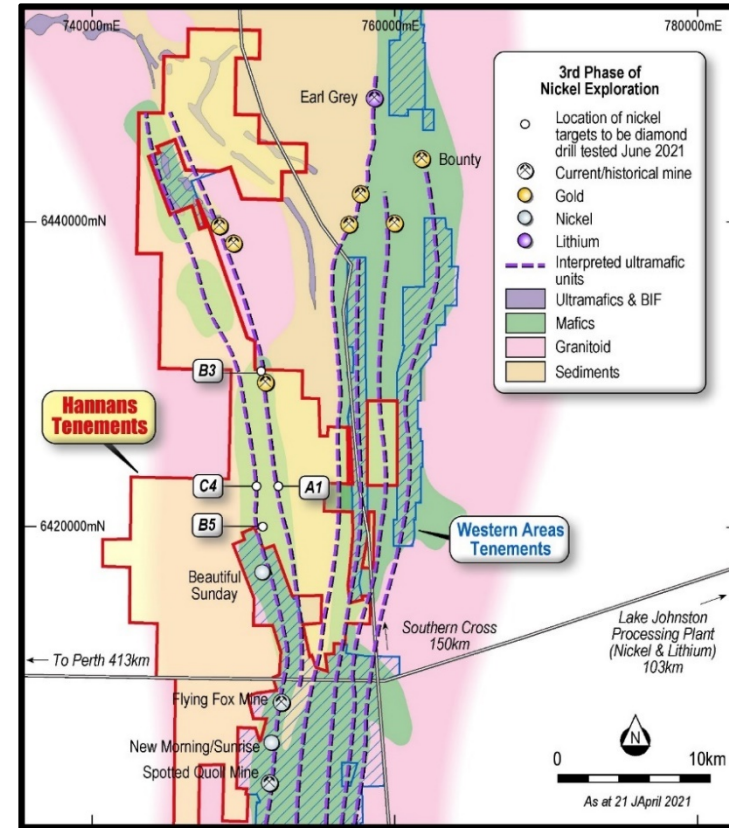
Critical Minerals



Fraser Range Nickel & Copper

- Next steps - review exploration plan, recommence ground EM surveys and drill test targets.

Critical Minerals



Forrestania Nickel & Gold

- Next steps – develop strategy to generate and test deeper targets (>250m).

Proposed News Flow*

Deliverable	Date
Moogie airborne geophysical survey	December 2021
Moogie survey interpretation, Fraser Range ground geophysical survey	1 st Quarter 2022
Moogie ground geophysical survey and mapping, Forrestania drilling	2 nd Quarter 2022
Moogie heritage survey and drilling	3 rd Quarter 2022
Fraser Range heritage survey and drilling	4 th Quarter 2022

* Subject to change

Directors



Jonathan Murray, Independent Non-Executive Chairman

- Director of Hannans Ltd (2010).
- Partner of Steinepreis Paganin
- Principal legal practice areas include equity capital markets, takeovers, project acquisitions and divestments, corporate governance, commercial law and strategy.
- Non-Executive Chairman of Critical Metals Ltd and Errawarra Resources Ltd.



Amanda Scott, Non-Executive Director

- Director of Hannans (2016) residing in Sweden.
- Exploration Manager for Hannans Group (2008-2016).
- Recipient of the 10th Nordic Exploration Award 2021
- Consulting Geologist with 18 years experience.
- Extensive experience in the Yilgarn and Pilbara regions of Western Australia and the Caledonides and Kiruna regions of Scandinavia exploring for gold, copper, nickel, PGEs, iron and manganese.



Markus Bachmann, Non-Executive Director

- Director of Hannans Ltd (2012) residing in Switzerland.
- Corporate finance professional.
- Founding partner of Craton Capital (cratoncapital.com)
- Non-Executive Director of Critical Metals Ltd.



Damian Hicks, Executive Director

- Director of Hannans Ltd (2002).
- Financial, legal and compliance qualifications.
- Principal responsibilities includes strategy formulation, deal origination & execution and capital raising.
- Executive Director of Critical Metals Ltd



Clay Gordon, Non-Executive Director

- Director of Hannans (2016).
- Bachelor of Applied Science (Geology) and a Master of Science (Mineral Economics). Member of the AusIMM and AIG.
- +25 years' experience in senior roles (operational, management and corporate) within large and small resource companies active in a range of commodities within Australia, Africa and Southeast Asia.

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