

## Presentation – Annual General Meeting 2022

Northern Minerals Ltd (ASX: NTU) advises that Executive Chairman Nicholas Curtis is addressing shareholders at the Annual General Meeting (AGM) at 10 am AWST today.

Attached is a copy of the Chairmans address and presentation.

*Authorised by Nicholas Curtis AM – Executive Chairman*

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### Powering Technology.

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**NORTHERN MINERALS LIMITED  
ANNUAL GENERAL MEETING  
OF SHAREHOLDERS  
FRIDAY, 25 NOVEMBER 2022 AT 10 AM**

**CHAIRMANS ADDRESS:**

**By Executive Chairman, Mr Nicholas Curtis**

Good Morning everyone, my name is Nick Curtis, and I would like to welcome you all to today's meeting.

The past year has been an important one for Northern Minerals, with the Company making significant progress towards ensuring we have the platform that will allow us to achieve our vision of becoming a leading producer of ethically produced rare earth elements, especially the heavy rare earths dysprosium and terbium, often referred to by their symbols of Dy and Tb, respectively.

These "heavies" are essential ingredients in the production of neodymium iron-boron, or NdFeB, magnets used in clean energy, military and high technology solutions. Neodymium and praseodymium are the major rare earth elements most commonly associated with NdFeB magnet production, but the magnets used in high value equipment, usually subject to significant variations in their temperature operating conditions, such as electric vehicle motors and magnets used in wind turbines, must have about 7-10% of the ND Pr amount as dysprosium and terbium to resist demagnetisation due to the change in operating temperature. There is no known alternative.

Independent strategic metals and minerals research and advisory firm Adamas Intelligence forecasts global demand for NdFeB magnets will increase at an annual growth rate of 8.6% a year between 2022 and 2035, driven by double-digit growth from EV and wind power sectors. However, Adamas is also concerned about a growing global shortage of Dy and Tb, and says that without sufficient supplies of them, future magnet makers in North America and Europe won't be able to produce enough high grade NdFeB magnets for the automotive industry, wind power sector and other critical end-use sectors. This, it fears, will jeopardise the competitiveness of downstream industries in these regions and potentially derail the roadmaps of automakers, technology developers and governments.

This is the background to the exciting future we see for Northern Minerals. The industry dynamics for rare earths are changing rapidly, presenting Australia and Northern Minerals with an enormous opportunity. As an increasing number of countries and economies around the world are seeking to rapidly electrify and decarbonise, they are seeking secure access to supply chains for strategic minerals, such as rare earths. Rare earths and the permanent magnets they produce will play a critical role in powering the energy transition and significant global demand is expected in the coming decades, however the certainty of supply is less certain.

China currently dominates rare earth magnet manufacturing, despite only holding around 35% of known rare earth reserves. Equipment manufacturers across several sectors are seeking access to additional supply chains, while governments in the US and Australia are facilitating programs and funding for the development of critical mineral projects. The recent Budget included \$50.5 million over four years to establish the Australian Critical Minerals Research and Development Hub, while allocating additional funds for the Critical Minerals Development Program. It is an exciting time at Northern Minerals, and the strategic review carried out by the Board earlier this year identified numerous opportunities to accelerate growth across the Company.

The key takeaway from the strategic review was prioritising the rich Wolverine deposit at Browns Range and aiming to bring forward plans for commercial production. The strategic partnership with Iluka Resources



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includes (subject to FID, Iluka due diligence and other conditions) a \$73.0 million funding package for the Browns Range Project, further reinforces the confidence in this strategy and the enormous potential of the precinct. As part of the strategic review, the Board in conjunction with the CEO also examined the leadership structure of the Company, identifying opportunities for change as we move into the next phase of development.

Whilst we are accelerating the development of Wolverine to bring us to cash flow we continue to be excited about the significant potential of other commercial deposits of xenotime within the Browns Range system. We do not think that Wolverine is the end. Rather it may be just the beginning of a rare earth district producing essential elements well into the future.

It is at this point, I would like to take this opportunity to thank Mark Tory, who is stepping down from his role of CEO. Throughout his tenure at Northern Minerals, Mark has been integral in transitioning the Company from greenfield exploration to pilot plant production of heavy rare earths. He first joined Northern Minerals as CFO and company secretary in December 2012 and has held the role of CEO for the past two years. Among his achievements, most recently Mark helped conclude a successful three-year pilot program that contributed materially to understanding the metallurgy of the Browns Range rare earth resource. The Company is left with a strong balance sheet and is debt free. On behalf of everyone at the Company I want to thank Mark and wish him the best in his next endeavour.

As part of the of the transition to the new leadership structure a corporate office is being set up in Sydney. Our registered office will remain at its current location in Perth, housing company secretarial, operations and exploration functions. We intend to also continue with the process of Board renewal, recognising the benefits of having directors with a broad range of skills, experience and perspective. Shane Hartwig will be a welcome addition to the Board in his role as Executive Director – Finance. Shane is a vastly experienced finance executive with a proven track record in structuring and raising debt and equity finance and providing strategic corporate and commercial advice. Shane will join us next month.

Central to the upwards trajectory of the Company is the recently announced strategic partnership with Iluka Resources. We believe this partnership will bring success to the Company and will reverberate across the rare earths industry in Australia, by fostering new supply chains and creating value addition.

Terms of the deal include Northern Minerals signing a rare earth concentrate supply agreement with Iluka covering the initial 8+ year mine life from Wolverine. The agreement is for supply of all available concentrate until the delivery of contained rare earth oxide has reached 30.5kt.

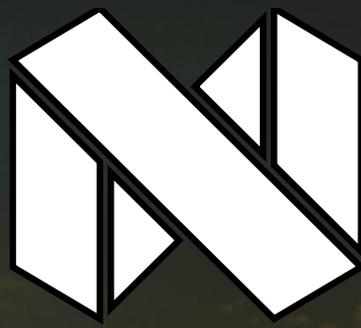
Iluka will in turn help finance the development of the Browns Range Project, which is rich in dysprosium and terbium. The Iluka funding package of up to \$73.0 million saw Iluka recently invest \$20 million via a \$5 million share placement plus a \$15 million convertible note, as well as potentially contributing up to a further \$53 million of additional funding, subject to certain conditions.

This investment will enable us to complete to complete definitive feasibility study for a mine of commercial-scale beneficiation at Browns Range, provide ongoing working capital and contribute to the future equity component of the capex and commissioning costs associated with the Browns Range Project.

It also has broader connotations for the Australian economy and rare earths industry. Feedstock secured from Northern Minerals will be integral to Australia's first fully integrated rare earths refinery at Eneabba WA, which is being built by Iluka with the help of a \$1.25 billion non-recourse loan from the federal government. First production is earmarked for 2025.

The refinery will facilitate a new supply chain and position Western Australia as a strategic hub for the downstream processing of rare earths resources to produce separated rare earth oxides. Northern Minerals is poised to help the world decarbonise and achieve net zero emissions.

Finally, I would like to extend my thanks to the entire team at Northern Minerals, and to you our shareholders for your ongoing support and commitment.



# NORTHERN MINERALS

Annual General Meeting

25 November 2022

# Strategic Overview

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1

Aiming to be a leading ex-China supplier of Dysprosium and Terbium, which have strong tailwinds from decarbonisation

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2

Strategic partnership with Iluka de-risks and accelerates the project development via a supply agreement and significantly reduced capex

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3

Strong geological potential at Browns Range from Wolverine deposit and surrounding tenements, with ambition to grow mine life >20 years

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# Refocused strategy under new management team



## Nick Curtis (Executive Chairman)

- Over 35 years experience in mining and finance
- Demonstrated track record of identifying opportunity and delivering
- 25 years of RE experience
- Previous Executive Chairman of Lynas Corporation
  - In 2001 Nick took control of Lynas and refocused it as a rare earths company, developing the Mt Weld RE deposit in Western Australia and building a large downstream processing plant in Malaysia
  - Helped grow it into the market leading RE company ex-China
  - Attracted to Northern Minerals' ore body, which contains Dysprosium ("Dy") and Terbium ("Tb")
- In 2011 Nick founded Forge Resources, a junior ASX mining exploration company which acquired the Balla Balla Mine in the Pilbara in Western Australia. The company was privatised in 2014
- Nick also founded Sino Gold which listed on the ASX in 2001 and was taken over by Eldorado Gold



## Robin Jones (COO)

- Has held the role of COO at Northern Minerals for ~10 years and was the Project Director for the 2015 DFS
- Over 30 years' experience in the mining industry
- Has held senior positions globally across various mining companies
- 10 years experience in RE



## Shane Hartwig (Finance Director Elect)

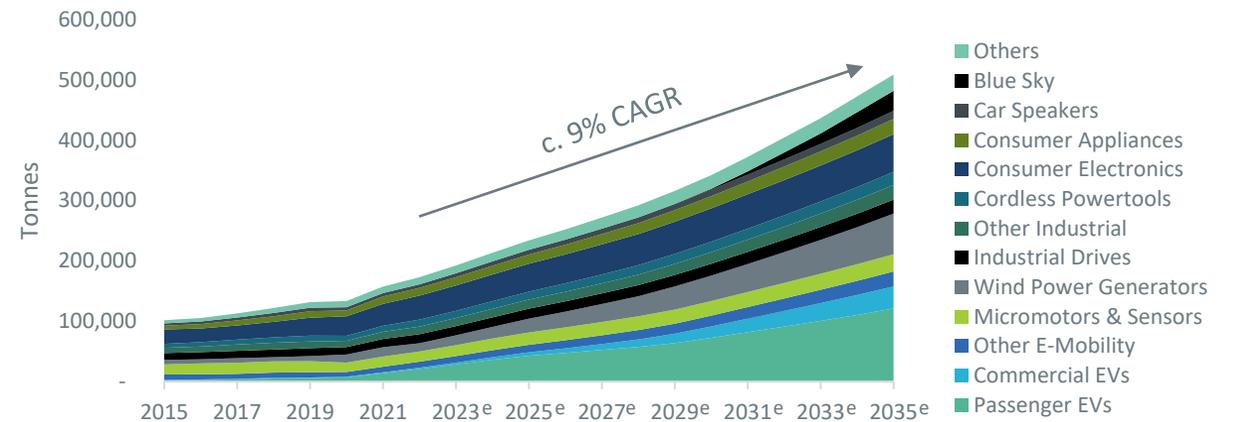
- A senior finance executive with a proven track record working as a trusted strategic corporate and commercial advisor to companies operating in small and mid-cap sector of the Australian listed market across a broad range of industries
- More recently CFO and commercial lead for a proposed greenfield integrated infrastructure and mining project
- Worked with Nick Curtis over several years as a key commercial adviser and CFO
- Experienced ASX listed Director/Co-Sec



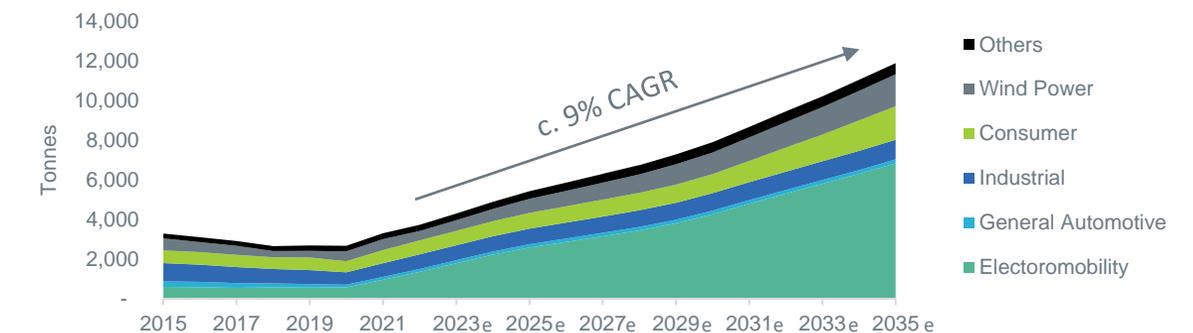
# Dysprosium and Terbium are critical minerals in the supply chain for high end magnets

- Permanent magnets play a critical role in electrification and decarbonisation, creating strong long-term demand for key magnet minerals
- Batteries are critical as they store energy, but permanent magnets transform that energy into kinetic energy
  - Permanent magnets and catalysts responsible for ~65% of global RE demand by volume, and permanent magnets only, ~95% by value (in 2021)<sup>1</sup>
  - Value of magnet RE market is expected to triple by 2035<sup>1</sup>
- Dy and Tb are key components in the manufacture of performance technology solutions for clean energy
  - High-end uses such as wind turbines and EV motors are expected to have higher demand growth
- Not enough Dy and Tb to source projected demand forecasts
  - By 2035, expectation of a shortage equal to 2-3x 2021 global output<sup>1</sup>
- Current geographical concentration supports creating an ex-China supply chain for these high-end magnetic uses
  - China and Myanmar currently responsible for >90% of global Dy/Tb mine production and >99% is refined in China<sup>1</sup>

World NdFeB Magnet Demand by End-Use



Dy and Tb Oxide Demand

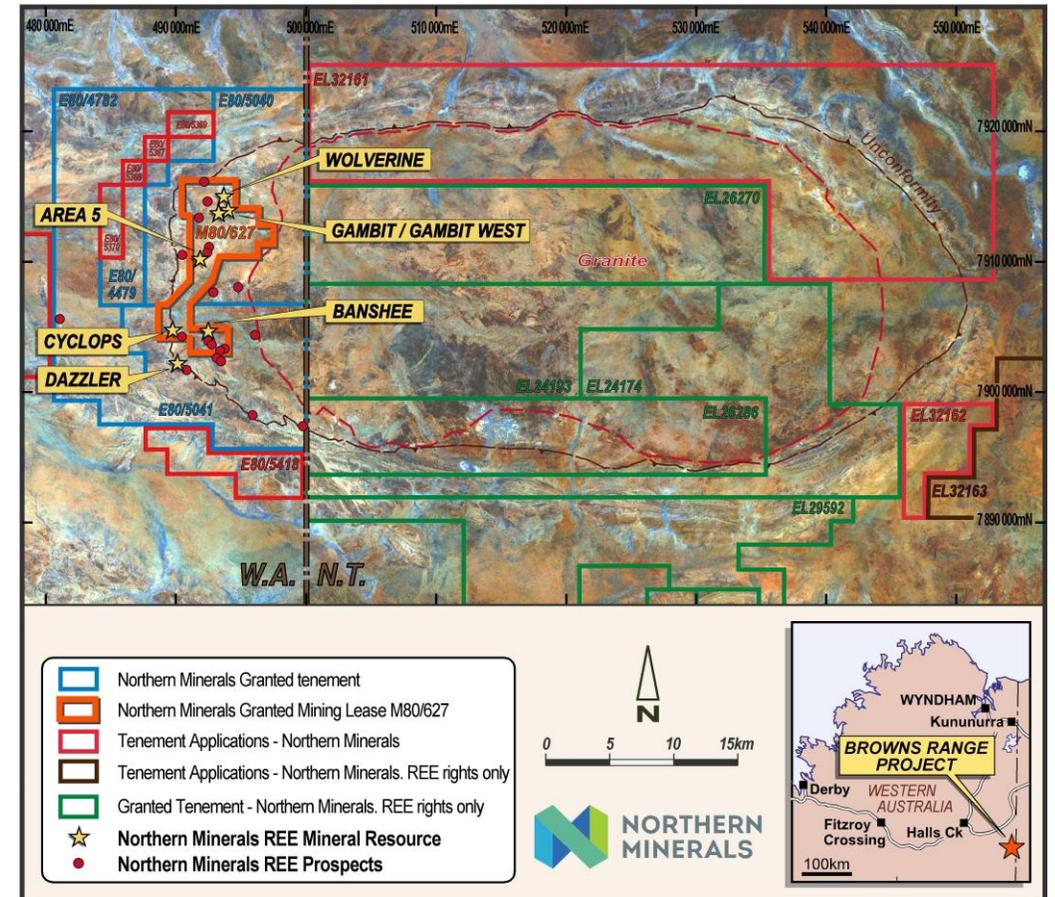


1. Source: Adamas Intelligence: Rare Earth Magnet Market Outlook to 2035 at Q2 2022



# Northern Minerals owns high quality mineralisation field, hosting Dy and Tb

- Structural geology and mineralogy (including the types of mineralisation that host high grade ore) is well understood
  - Northern Minerals has owned the project for ~16 years and has undertaken ~\$73m of exploration, including ~134,500 meters of drilling
- High confidence in metallurgy and processing ability
  - Three years of processing to produce concentrate and carbonate at Browns Range Pilot Plant from trial mine
  - Magnetic separation and flotation result in ~30x TREO grade increase into 3% of feed mass
- Geological system rich in Dy and Tb, containing three types of mineralisation traps
  - Occurrence of shear zones (vertical structure, high grade)
  - Horizontal strata bound (near surface, lower grade)
  - Unconformity related Dazzler style (high grade)
- Wolverine is understood to be the highest grade Dy and Tb orebody in Australia
- Existing near mine infrastructure (access to camp, roads, power, etc.)
- Wolverine Mineral Resource estimated at 61,492 tonnes of TREO in 6.44 million tonnes @ 0.96% TREO<sup>1</sup>
- Significant potential for further mineralised shear zones within the Browns Range Project
- Native Title co-existence agreement in place with the Jaru Native Title Holders



1. Classified and reported according to Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code 2012 Edition, Effective December 2013, Prepared by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC Code). See ASX announcement on 10 October 2022 for further details



# Moving Wolverine deposit towards production

- ◆ NTU is assembling an experienced team to update the DFS, which will leverage work undertaken in the 2015 DFS. Incremental work will focus on:
  - Assessing mining costs of the revised mining method (sub level caving)
  - Mining Wolverine as a shear zone
  - Inclusion of an ore sorter to increase product grade and de-risk mining dilution – demonstrated 60% improvement in ore sorter product grade from pilot plant operation
  - Establishing a concentrate beneficiation plant
  - Maintaining exposure to REO price upside through terms of Supply Agreement with Iluka, rather than constructing capex intensive downstream processing plant
- ◆ Indicative timeline:
  - Updating DFS expected to take 12 – 15 months
  - Targeting Wolverine Project FID in Q1 2024 with first production forecast to occur in 2026, subject to receipt of customary approvals
- ◆ Brown Range Project further de-risked with long term supply and funding agreements with Iluka
- ◆ Supply agreements with Iluka provides a solution for downstream processing which changes project scope and reduces upfront capex spend; the take or pay agreement also provides commitment by its foundation customer
- ◆ Aiming to become an important alternative supplier of Dy and Tb

## Ore Sorter at Browns Range Project



# Strategic arrangements with Iluka

## Supply agreement

- TREO Supply Agreement signed with Iluka Resources covering current known Mineral Resource over initial 8+ year mine life (30.5k tonnes of contained TREO in concentrate) from Browns Range to complement Iluka's suite of RE products
- Concentrate to be processed at Iluka's Eneabba plant
- Includes fixed<sup>1</sup> and market price components mechanism (sharing in REO pricing upside); both are indexed to CPI

## Convertible note & Placements

- Iluka subscribed for a \$15.0 million convertible note on 28 October 2022
- Initial placement to Iluka of 125.0 million shares to raise \$5m on 28 October 2022.
- Iluka can be issued up to an additional 883.3 million New Shares to raise up to \$53m at various times, subject to certain conditions, including NTU shareholder approval.
- Potential for Iluka to own up to 19.9% of NTU

## Mutually beneficial arrangement

- Iluka's funding assists NTU to update the Browns Range DFS and move to FID
- Concentrate will be processed in Australia – the first time that the value addition will occur in Australia
- Take or pay agreement provides attractive solution for downstream processing which reduces capex spend
- Iluka secures additional source of quality differentiated feedstock for its Eneabba refinery
- Demonstrates Eneabba refinery's strategic importance in fostering new critical minerals supply chains

1. Adjusted for REO assemblage adjustment and subject to take or pay turn down arrangements



# Summary

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- 1 A refocused Northern Minerals following a strategic review with a clear pathway towards production, now focused on updating the DFS and being a rare earths concentrate producer
  - 2 Strategic partnership with Iluka de-risks and accelerates the development of the Browns Range Project, significantly reducing capex
  - 3 Aiming to be a leading ex-China supplier of Dysprosium and Terbium which are critical in the production of permanent magnets required in electric vehicles and wind turbines
  - 4 Strong demand tailwinds for Northern Minerals' Rare Earths due to the acceleration of decarbonisation and electrification globally
  - 5 Orebody uniquely rich in Dysprosium and Terbium, with Wolverine understood to be the highest grade Dy and Tb orebody in Australia
  - 6 Well understood geology, metallurgy and processing, following ~16 years of exploration studies (~134,500m of drilling) and 3 years of pilot plant operation
  - 7 Experienced Board and Management team led by Nick Curtis, with significant Rare Earths mining experience including developing RE projects
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