



**NORTHERN  
MINERALS**

# **Becoming an important supplier of heavy rare earths**

**Company Presentation  
July 2023**

**ASX  
NTU**

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## Compliance Statement

The information in this report that relates to the Wolverine Mineral Resource estimate, it is based on information compiled by Dr. Maxim Seredkin. Dr. Maxim Seredkin is a full-time employee of CSA Global Pty Ltd and is a Fellow of Australasian Institute of Metallurgy and Mining (AusIMM) and Member of Australian Institute of Geoscience (AIG). Dr Maxim Seredkin has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Dr Maxim Seredkin consents to the disclosure of the information in this report in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resource estimates for deposits other than Wolverine was compiled by Mr Bill Rayson who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Rayson is a consultant to Northern Minerals, employed by Total Earth Science Pty Ltd, and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code). Mr Rayson consents to the inclusion of this information in the form and context in which it appears.

For the Wolverine Mineral Resource Estimate, further information that relates to it is available in the ASX announcement entitled "Updated Wolverine Mineral Resource estimate at Browns Range" dated 10 October 2022 and is available to view on the company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)).

For Pilot Plant Stockpiles, Gambit, Gambit West, Cyclops, Banshee and Area 5, further information that relates to the Mineral Resource Estimates is available in the ASX announcement entitled "Independent review increases Wolverine REE Mineral Resource estimate by 47% at Browns Range" dated 10 October 2022 and is available to view on the company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)).

For Dazzler, further information that relates to the Mineral Resource Estimates is available in the report entitled "Over 50% Increase In Dazzler High-Grade Mineral Resource" dated 7 April 2020 and is available to view on the company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)).

The Company is not aware of any changes to these Mineral Resource Estimates since they were released to the market.

The information in this Presentation that relates to production targets and forecast financial information derived from a production target is extracted from the Company's ASX Announcement dated 2 March 2015 entitled "DFS positions Browns Range Project as next dysprosium supplier" and is available to view on the Company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)) and at [www.asx.com.au](http://www.asx.com.au). The Company confirms that all material assumptions underpinning the production targets and forecast financial information in the announcement released on 2 March 2015 continue to apply and have not materially changed.

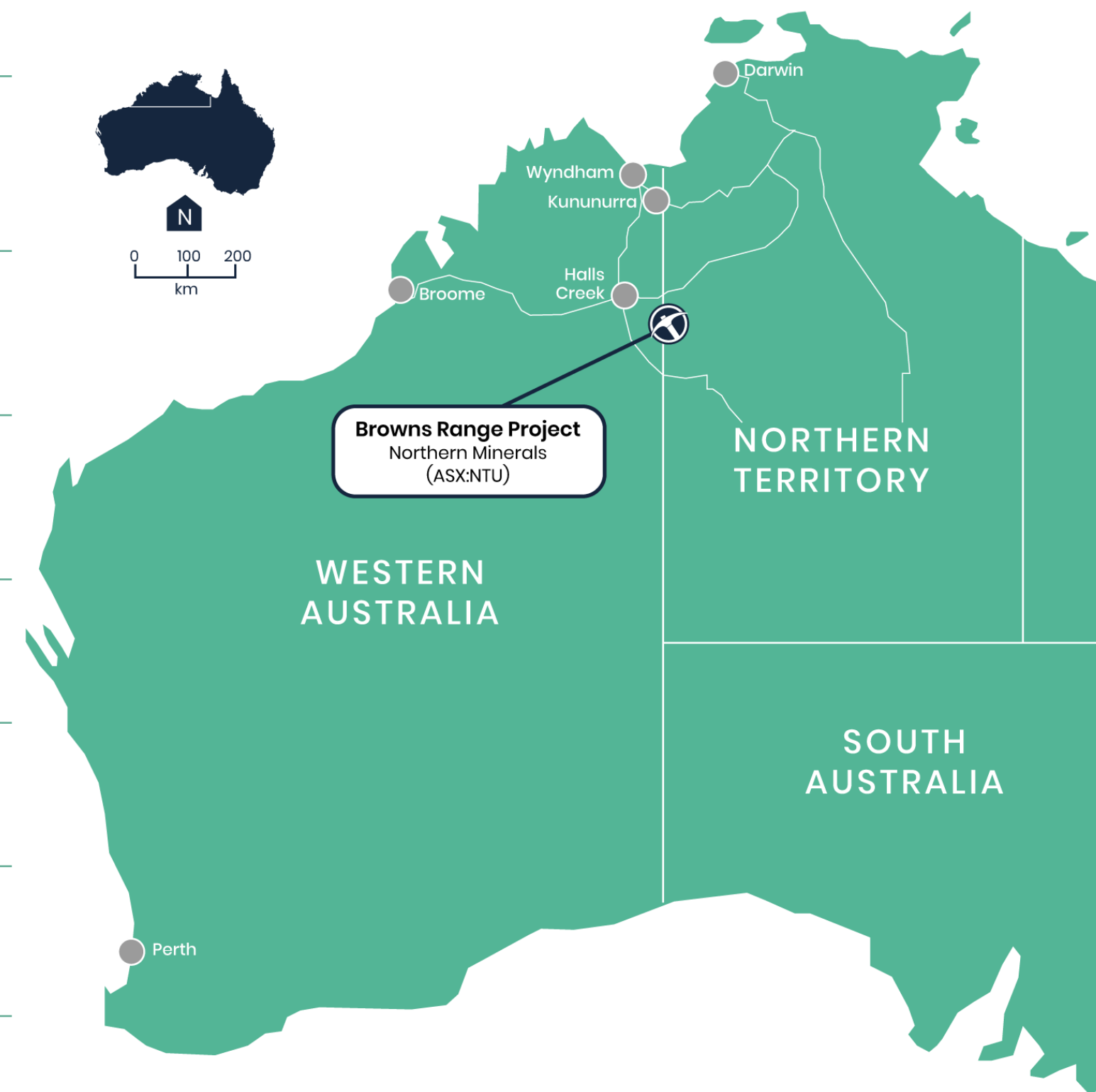
TREO = Total Rare Earth Oxides – La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

HREO = Heavy Rare Earth Oxides – Total of Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

# Investment Highlights

## Northern Minerals' assets sit within a uniquely Dy and Tb rich mineral setting in the Kimberley (Browns Range), with significant resource growth prospectivity

- 1 Refocused following a strategic review with a clear pathway towards production, now focused on updating the DFS and being a rare earths concentrate producer
- 2 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
- 3 Strategic partnership with Iluka de-risks and accelerates the development of the Browns Range Project, significantly reducing project complexity
- 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 one of the highest grade Dy and Tb orebodies globally
- 6 Well understood geology, metallurgy and processing, following ~16 years of exploration studies (~134,500m of drilling). High confidence in processing ability derived through 3 years of pilot plant operation, with Primary Approvals in place for main construction.
- 7 Experienced Board and Management team led by Nick Curtis, with significant Rare Earths mining experience, including reorienting Lynas Gold into a rare earth company and then developing Lynas from greenfield into operation

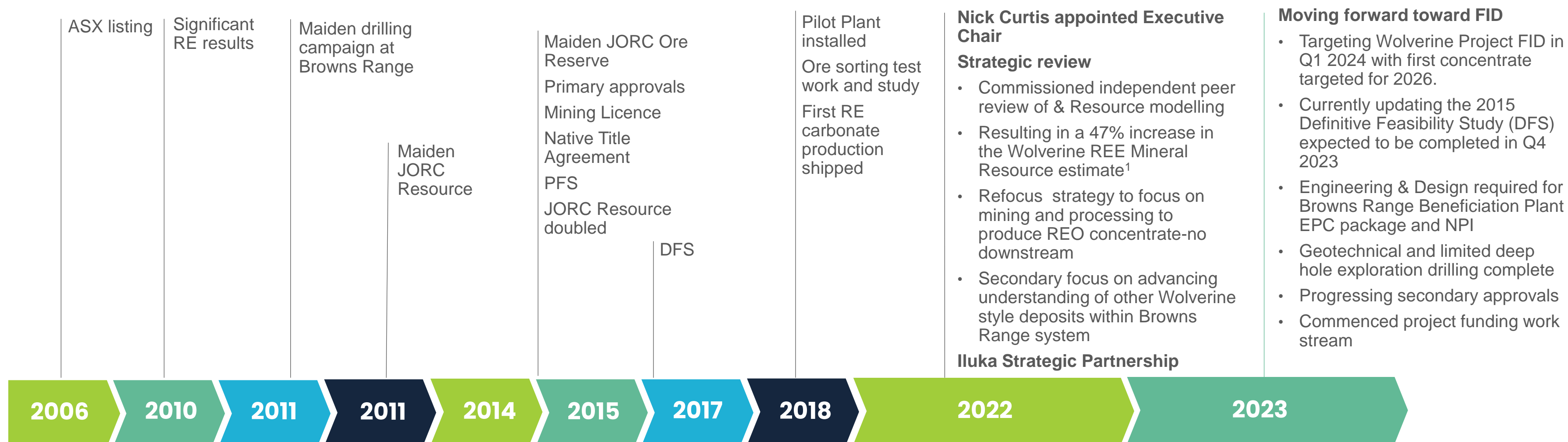


# Clear Pathway to Production



Northern Minerals has conducted a strategic review of the business led by Executive Chair, Nick Curtis, and has mapped a clear path forward to production

## Company timeline



- The arrangements under the Iluka Strategic Partnership allow Northern Minerals to focus on being an upstream producer, with a refined project scope reducing capital expenditure and operational complexity whilst participating in upside in the pricing of our Rare Earths, including highly valued Dysprosium and Terbium
- The company is now focused on updating our DFS on the path to production of REO concentrate to be processed at Iluka’s Eneabba plant

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

# The Northern Minerals Proposition



Northern Minerals' assets sit within a uniquely Dy and Tb rich mineral setting in the Kimberley (Browns Range), with significant resource growth prospectivity

## Structural Geology and Minerology Well Understood

- Owned project for ~16 years
- ~\$73m of exploration
- 134,500 meters of drilling

## High Confidence in Metallurgy and Processing Ability

- 3 years pilot plant processing
- Effective concentration through magnetic separation and flotation

## Geological System Rich in Dy and Tb Containing 3 Mineralization Traps

- Large exploration area centered around granite dome structure with various intrusive mineralized zones

## Highest Grade Dy & Tb Orebody in Australia

- Wolverine is understood to be the highest grade Dy/Tb hard rock deposit in the world

## Existing Near Mine Infrastructure

- Pilot plant operations established camp, roads, airstrip and power, etc (expansion will be required for full scale operations)

MRE of 61,492 tonnes of TREO in 6.44 million tonnes @ 0.96% TREO<sub>1</sub>

- Over 1000 tonnes of concentrate produced and sold from the Wolverine deposit trial open pit.

## Significant Potential for Further Mineralised Shear Zones

- Structural controls are well understood. Mostly shear zone and strata bound intrusive.

## Native Title Agreement and Ministerial Statements

- In place with the Jaru Aboriginal Corporation
- All Primary Approvals in place

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

# Wolverine Deeps Extension Drilling Program

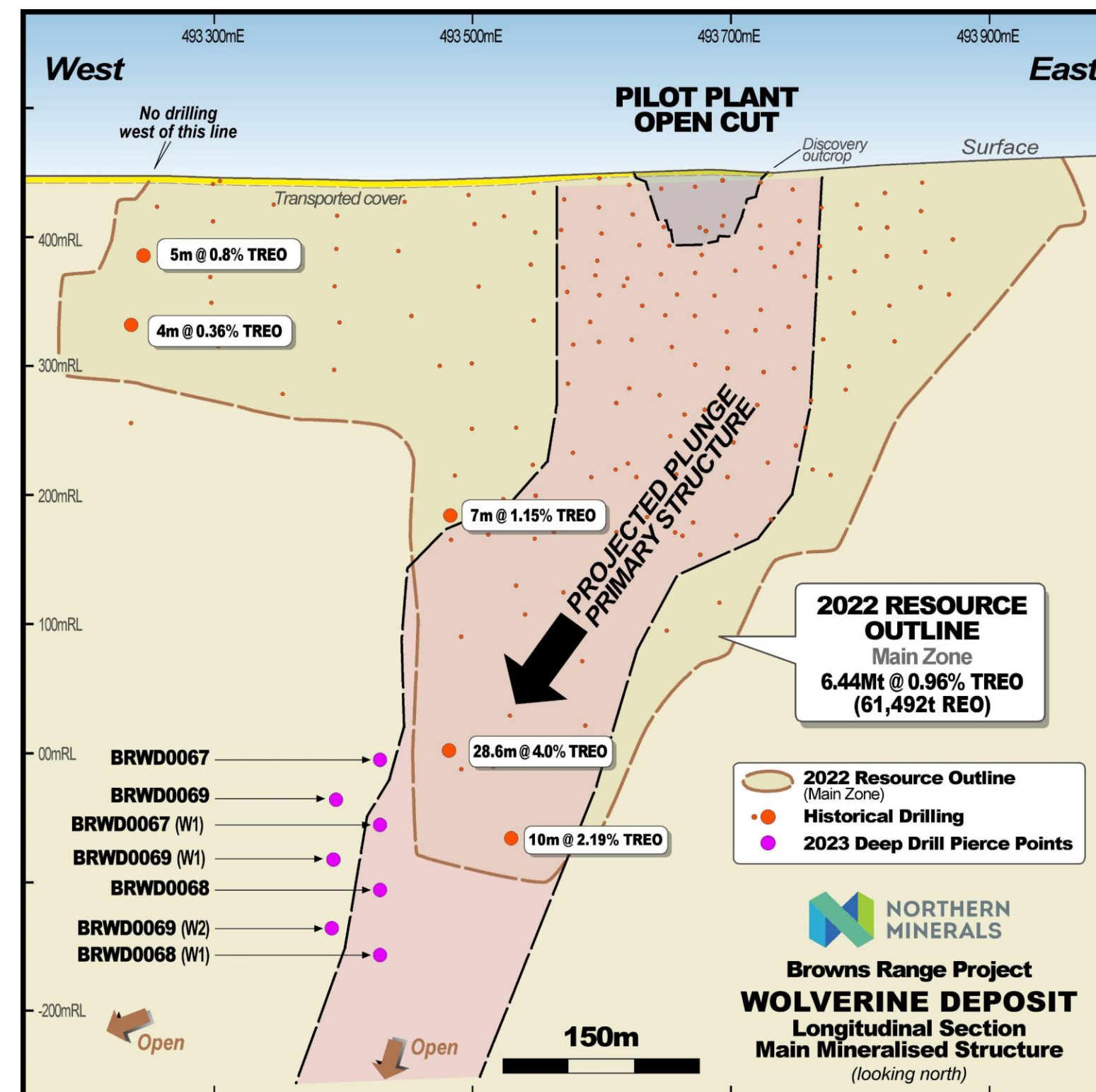
## Objective

- Test direction of plunge and grade at depth
- Drilling completed in May 2023

## Outcome

- Western line of holes closes off mineralization to the west
- Plunge steeper than anticipated
- Significant mineralisation potentially remains open with depth

Hole Number	From (m)	To (m)	Interval (m)	TREO <sup>2</sup> (%)	Dy <sub>2</sub> O <sub>3</sub> (ppm)
BRWD0067	490	498	8.0	0.26	145
BRWD0067W1	515	531	15.8	0.51	454
	547	549	1.9	2.29	2,029
BRWD0068	589	607	17.6	1.96	1,819
	Incl. 589	599	9.9	3.27	3,048
	Incl. 591	597	5.5	5.57	5,211
BRWD0068W1	621	631	10.0	0.19	130
	and 635	653	18.2	0.62	575
BRWD0069	No significant intercepts				
BRWD0069W1	No significant intercepts				
BRWD0069W2	611	616	5.0	0.63	159



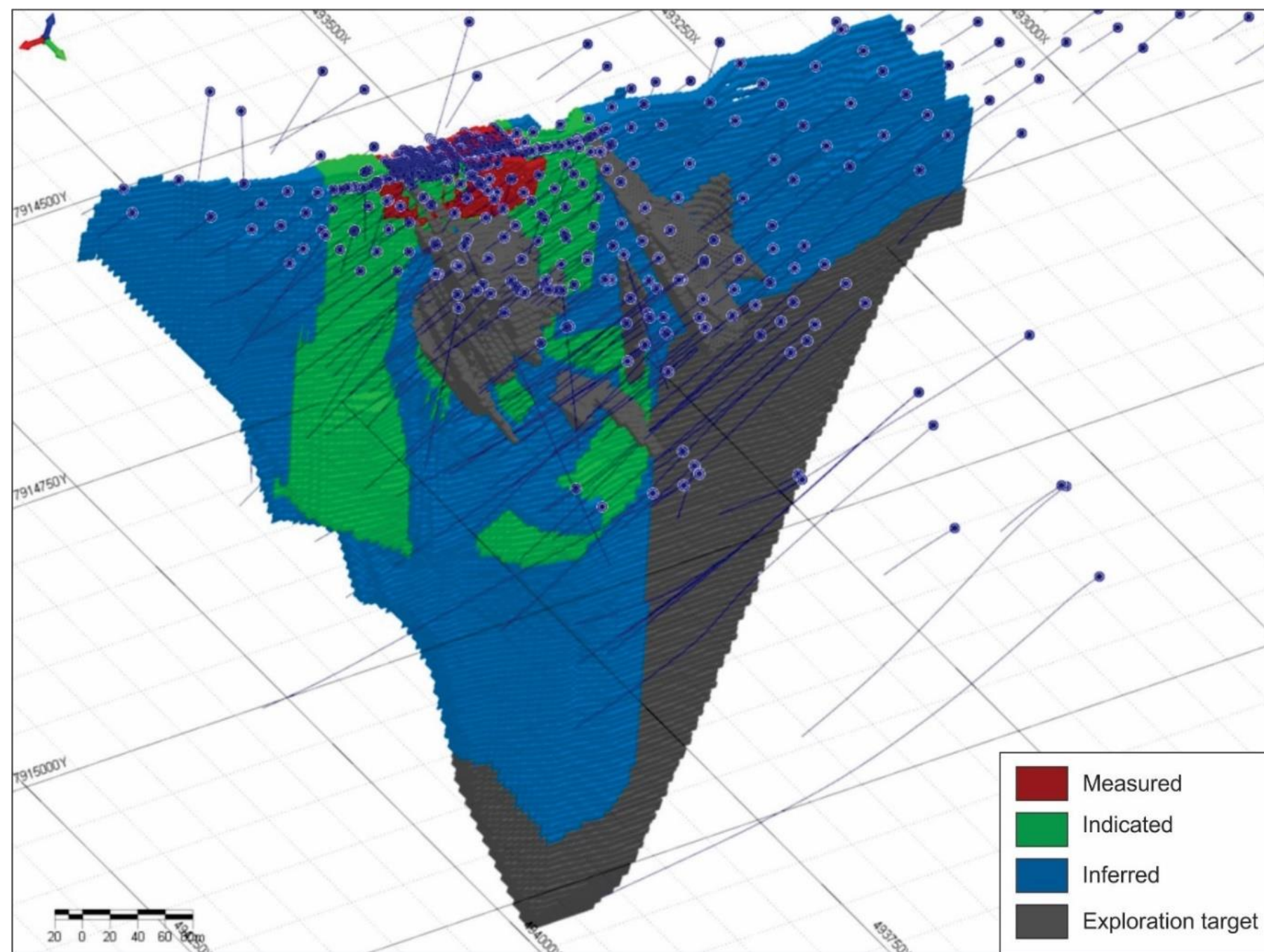
# Proposed Wolverine Resource Definition Drilling

## Proposed Program

- Convert Inferred Mineral Resource to Indicated
- Seeking to convert 1.99Mt @ 1.25% TREO for 24,900 t contained TREO
- If economic, allows Indicated Mineral Resources to be converted to Probable Reserves
- Targeted drilling on a 25m x 25m centres
- Target depth of drill holes is between 350m and 500m below surface
- 45 ore zone pierce points required
- Diamond drilling expected to commence in Aug 23

## Funding

- Total program costs of \$8.4M
- \$4.2M or 50% from Critical Minerals Development Grant funding



**Wolverine Mineral Resource – Oblique view looking Northeast**



# Moving Wolverine Towards Production

Strategic objective to bring the Browns Range Project (Wolverine deposit) into production and focus on being a producer of REOs, critical in high performance magnet production

Highly experienced team delivering the DFS, leveraging the work undertaken in the 2015 DFS, with a focus on:

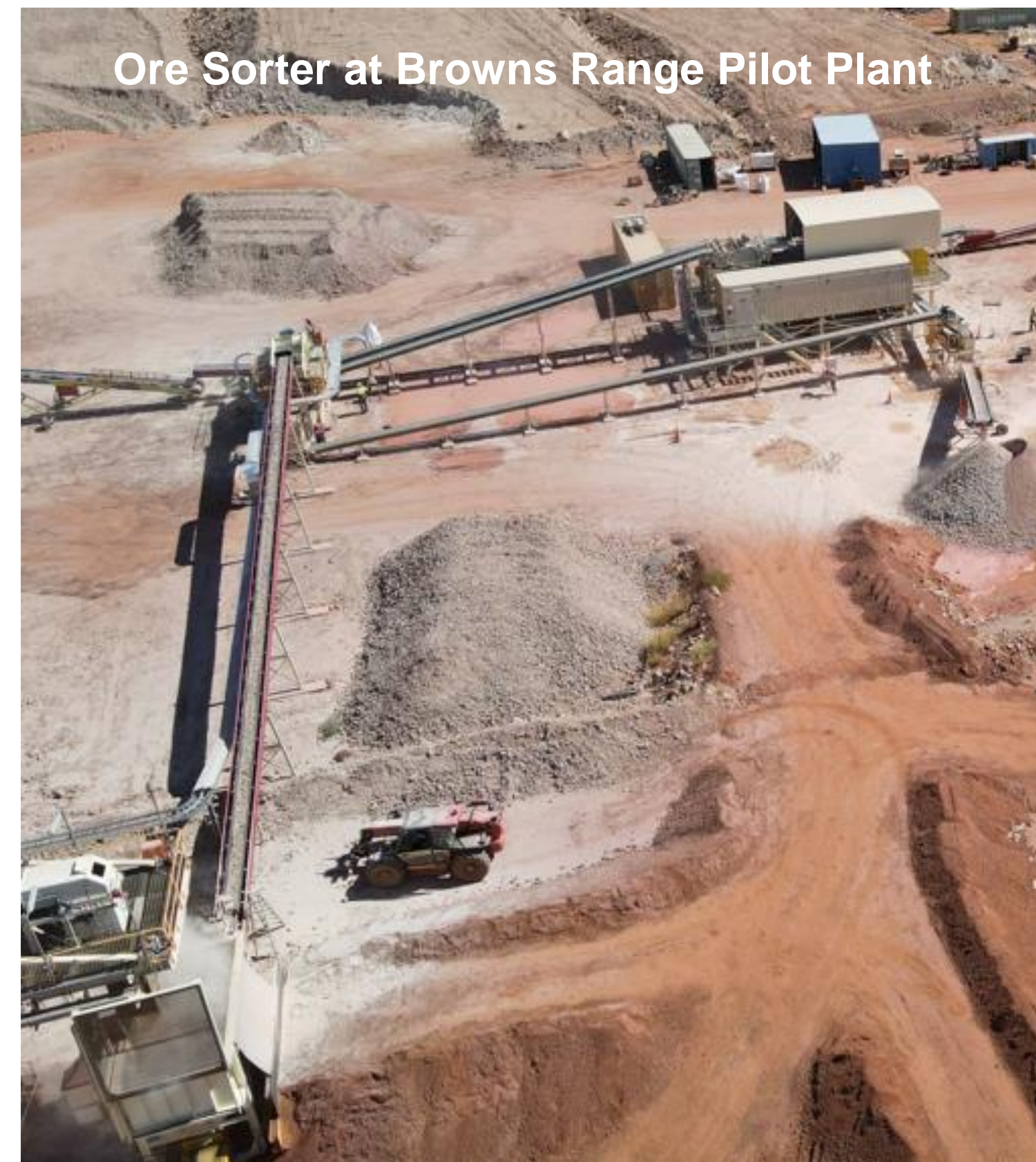
- Assessing mining design and costs of the revised underground mining method (sub level retreat)
- Mining Wolverine as a shear zone
- Inclusion of an ore sorter to increase product grade and de-risk mining dilution – demonstrated 60% improvement in ore sorter product grade from pilot plant operation
- Establishing a concentrate beneficiation plant

## Indicative timeline:

- Update of DFS - commenced 2022
- Completion - expected late CY 2023
- Wolverine Project FID - targeting Q1 CY 2024
- First production - targeting 2026 (subject to receipt of customary approvals and obtaining project funding)

## Brown Range Project further de-risked

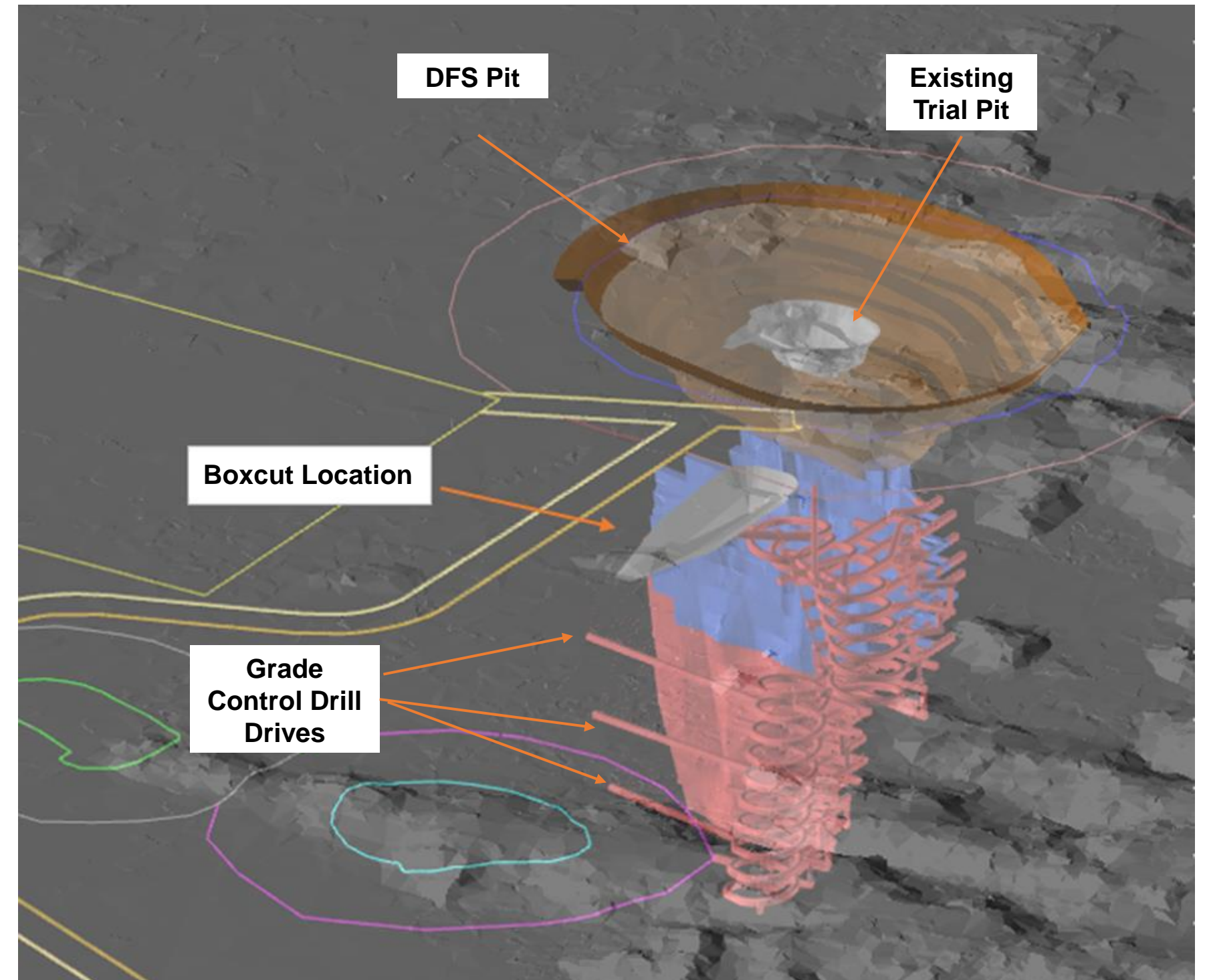
- With long term supply and funding agreements with Iluka
- Avoids construction of capex intensive downstream processing plant while maintaining exposure to REO price upside.



# Mining

## Commencing with open pit, transition to Sub Level Retreat (SLR)

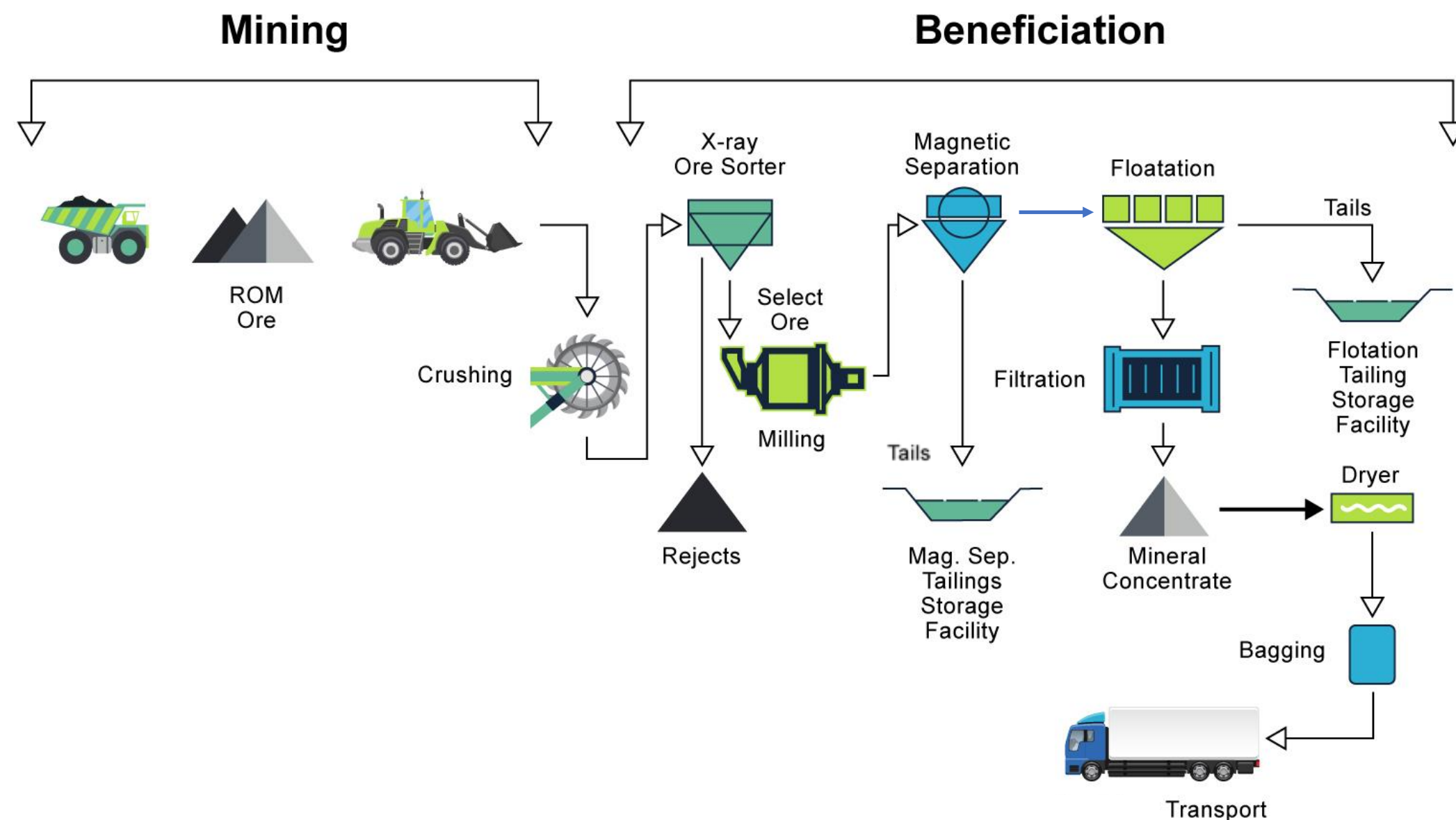
- Focus on Wolverine for DFS update
- Mining production rate 910,000 t / year for 8+ years
- Start with a cut back of the existing trial pit to a larger open pit ~125m deep (same as 2015 DFS)
- Transition to Sub Level Retreat (SLR) underground mining when the open pit reaches its limit
- Cave flow modelling by Beck Engineering
- Extensive geotechnical testwork and coverage
- Other deposits at Browns Range will be mined after Wolverine



# Processing IP from Pilot Plant

1,140t of concentrate has already been produced at the target grade through the pilot plant – it is the same material from the same orebody

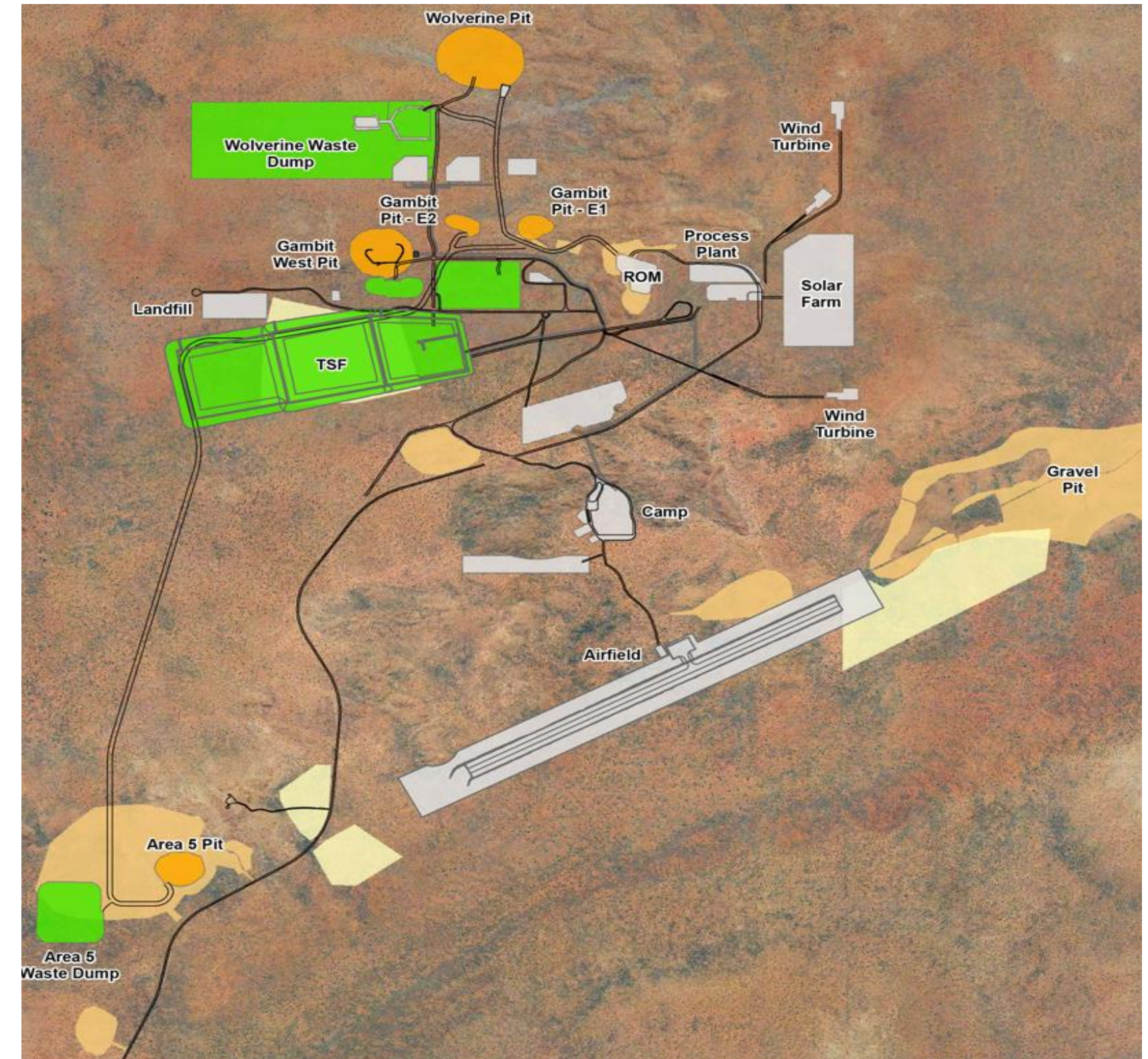
- The ore is enriched in xenotime within a predominantly quartz and mica host rock
- The proposed crusher and mill feed rates are 910,000 tpa and 585,000 tpa respectively
- Grade is increased ~40 times through the beneficiation circuit from mined ore to final concentrate product
- Process design progress:
  - Flow sheet design is complete
  - Engineering design and layouts complete through ECI process
- Mining design process
  - Geotechnical studies nearing completion
  - Provisional mine designs and schedules complete
- Non-Process Infrastructure (NPI) design nearing completion:
  - Tailings Storage Facility
  - Surface and groundwater management
  - Water supply
  - Bulk Earthworks and site access
  - Accommodation buildings and services
  - Power supply with high renewable penetration



# Operations & Proposed Layout

## Pilot Plant operations enabled establishment of key base operational requirements

- Airstrip, offices and a worker's village
- Gravel access roads to the mine and around the mine site
- Power supply come from diesel generators, solar panels and possibly wind turbines
- Water supply from a bore-field in Gardiner Sandstone
- Tailings storage facility
- Inert and putrescible landfill facility on site
- Village Waste Water Treatment Plant and spray field
- Water management structures

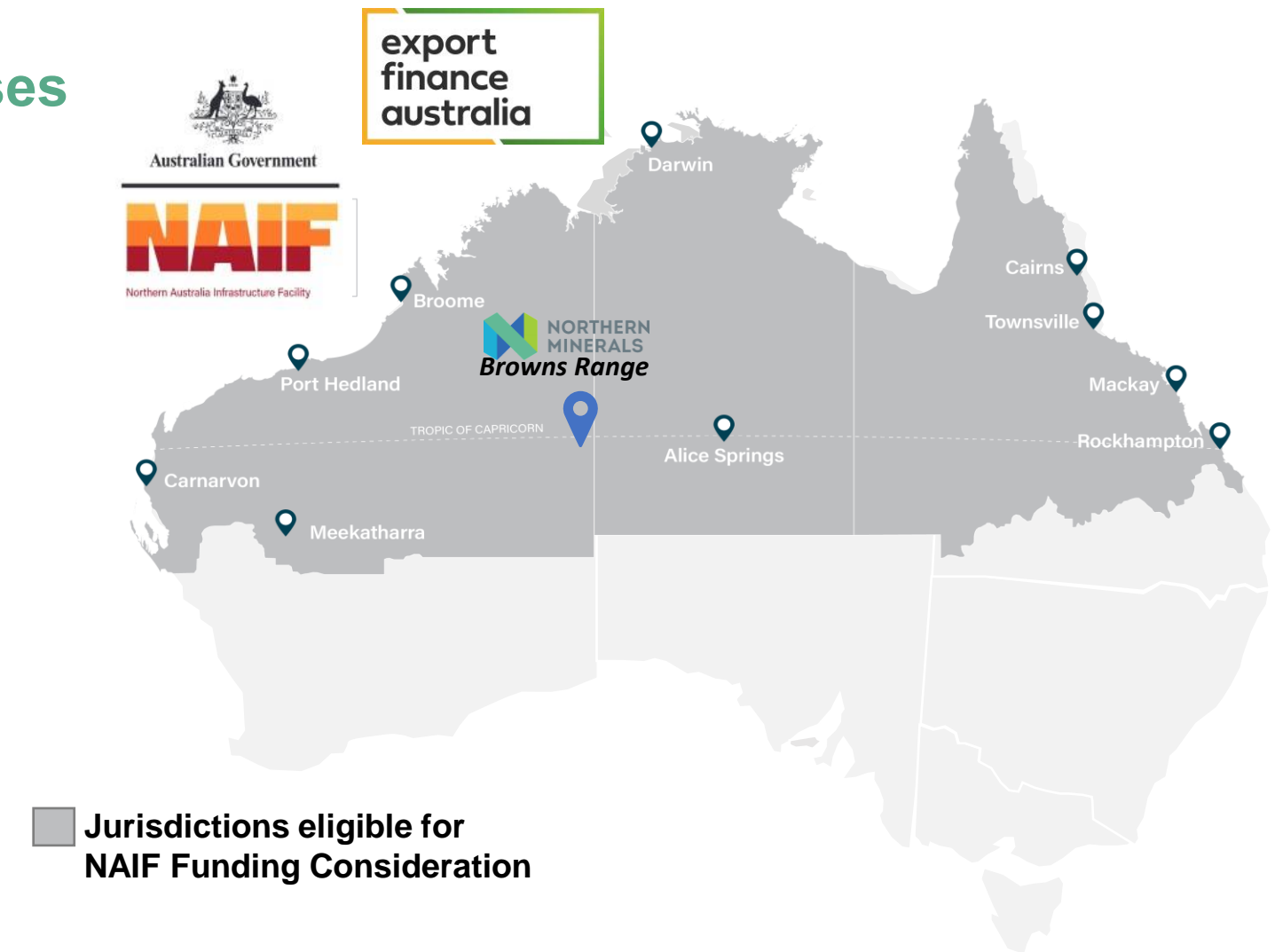


Browns Range Project proposed layout

# Debt Financing Progress

## Dialogue with NAIF and EFA for Browns Range financing progresses

- 1 Engagement has commenced with both commercial financiers and the Northern Australian Infrastructure Facility (NAIF) to work towards securing debt financing for Browns Range
- 2 NAIF have completed a strategic assessment of Browns Range, which will be followed by a period of detailed due diligence during the NAIF assessment process
- 3 Northern Minerals to work closely with NAIF during this detailed due diligence period to develop an Investment Proposal for the NAIF Board to consider an Investment Decision<sup>1</sup>
- 4 Northern Minerals also continues its dialogue with Export Finance Australia surrounding its potential involvement in the provision of debt funding for development of the Project
- 5 Financing dialogue progresses to formulate an optimal financing structure for Browns Range in parallel with completion of the Definitive Feasibility Study with the aim of securing debt funding credit approvals in Q1 2024



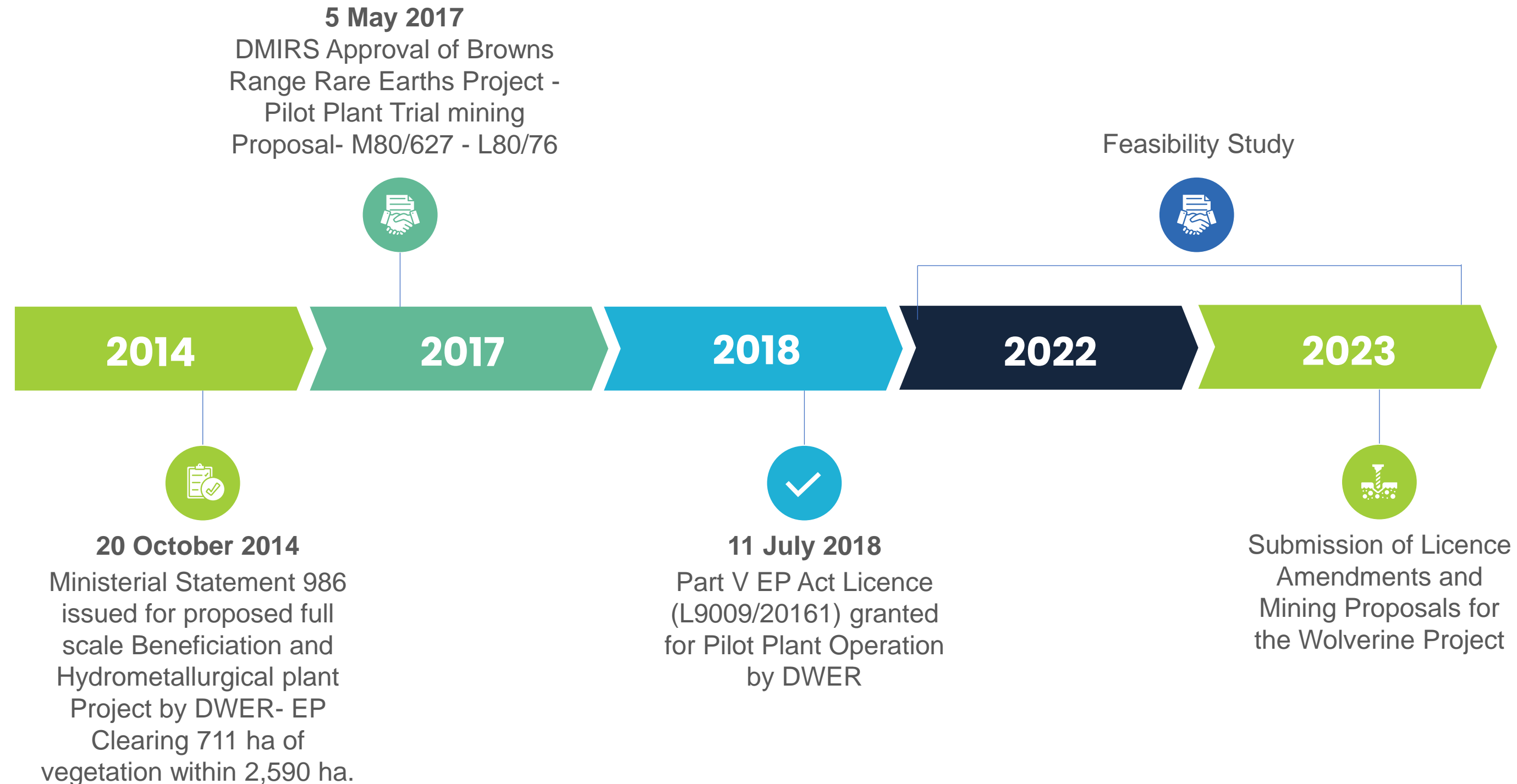
### NAIF Mandatory Investment Requirements:

- ✓ Involve the development or enhancement of infrastructure
- ✓ Be of public benefit
- ✓ Be in, or have significant benefit for, northern Australia
- ✓ For debt finance, be able to repay or refinance NAIF's debt
- ✓ Have an Indigenous engagement strategy
- ✓ For equity investments, generate a return to Government

1. NAIF has not made any decision to offer finance nor made any commitment to provide any financing and there is no certainty that an agreement will be reached between the parties

# Regulatory Approvals Summary

*All Primary approvals in place to achieve FID*



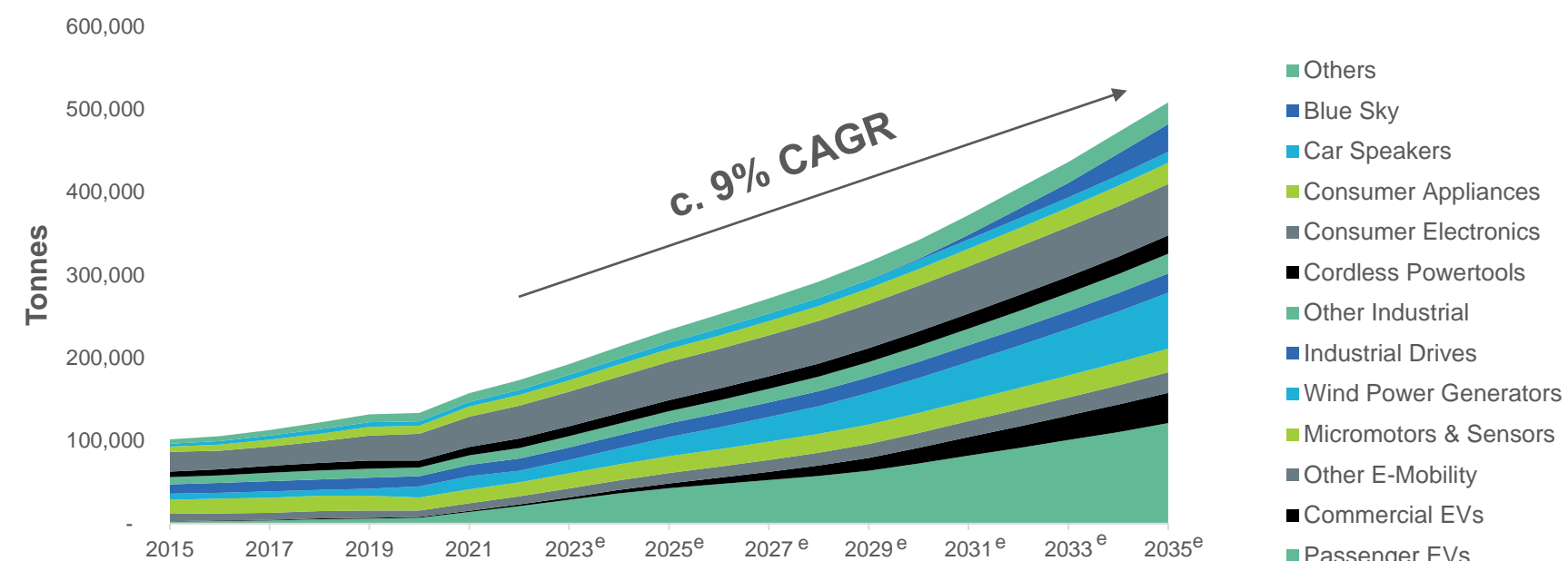
# Market Opportunity

The inflection towards electrification and decarbonisation is undoubted – permanent magnets play a critical role in the realisation of these processes which creates strong long-term demand for key magnet minerals

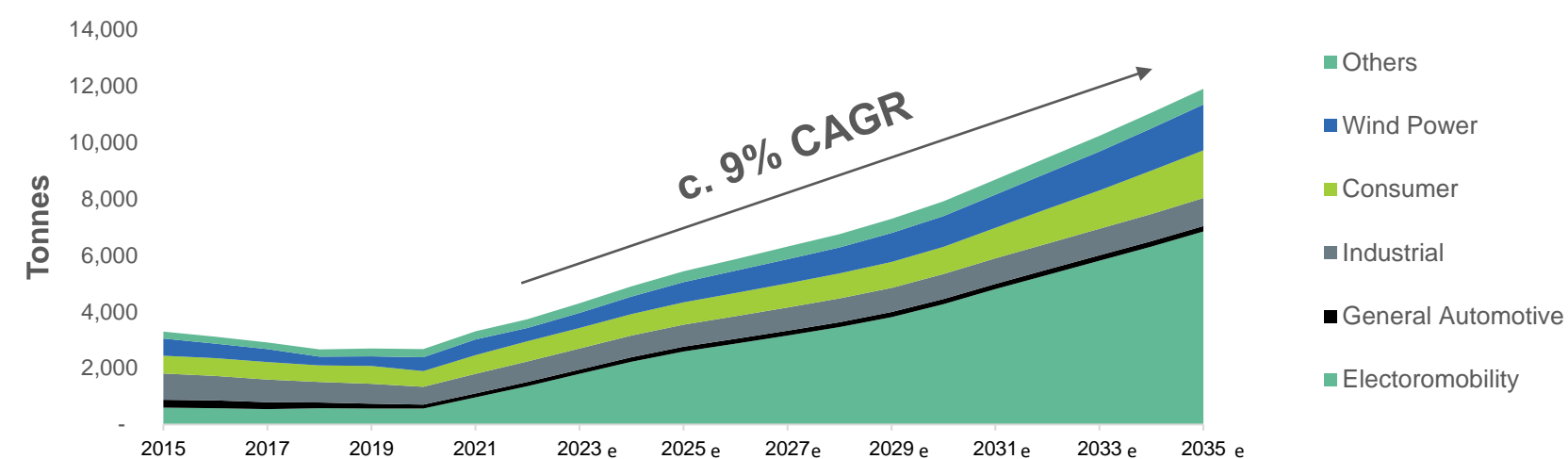
## Dysprosium and Terbium are critical minerals in the supply chain for high end magnet uses

- 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>
- Batteries are critical as they store energy, but permanent magnets transform that energy into kinetic energy
- 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

# Iluka Supply Agreement

## Northern Minerals Strategic Partnership with Tier 1 partner Iluka Resources

### 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 rare earths refinery facility
- Includes fixed and market price components mechanism (sharing in REO pricing upside); both are indexed to CPI

### Convertible Note

- Iluka subscribed for a \$15.0 million convertible note issued in October 2022
- Coupon of 7.0%, maturity date of 31 December 2024 and convertible into approximately 365.6 million New Shares (including assumed capitalised interest) at a conversion price of \$0.048 per share, subject to conditions and standard adjustment events

### Placement

- Initial placement to Iluka of 125.0 million shares / \$5m issued in October 2022, with ability to be issued up to an additional 230.0 million New Shares / up to \$13.8m, subject to certain conditions including Browns Range FID and final Iluka due diligence
- A put option/ call option arrangement, pursuant to which Iluka may be issued up to an additional 653.3 million New Shares (subject to a 19.9% cap) / up to \$39.2m. The call is exercisable at any time after shareholder approval before maturity, and the put is exercisable from Tranche 2A completion until maturity
- In addition, subject to the ASX Listing Rules and any policy, guidance or requirement published or notified by ASX from time to time, a reasonable opportunity to participate in any further equity raisings

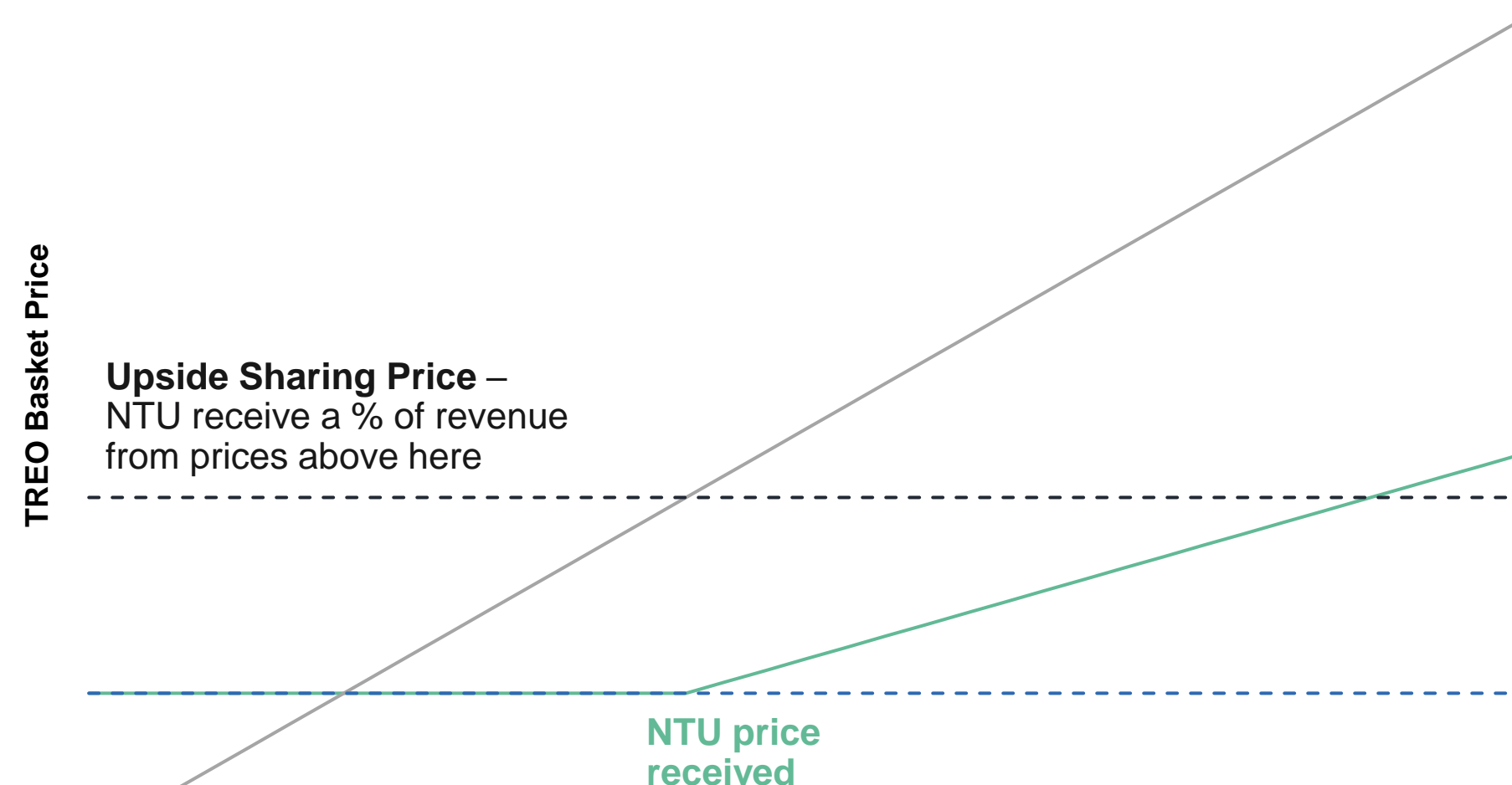


# Iluka Supply Agreement

## Northern Minerals Strategic Partnership with Tier 1 partner Iluka Resources

- Northern Minerals to produce Xenotime concentrate from its Browns Range Project and sell to Iluka for use in its Eneabba Refinery
- Proposed annual production to be delivered to Iluka (post commissioning and ramp up) initially not greater than 5,500 tonnes of contained REO in Product (Maximum Annual Quantity)
- Pricing of the concentrate will include a fixed price component based on contained REO and an upside price sharing mechanism based on realised selling price, as well as adjustments for impurities.
- Northern Minerals must sell and deliver to Iluka, and Iluka must purchase and take, 100% of the product that is produced from Northern Minerals in each year within agreed bands of Minimum and Maximum Quantities that meets the specifications under the Iluka Supply Agreement
- The Iluka Supply Agreement provides ILU with a right of first refusal in respect of Product from the Browns Range Project in excess of the maximum annual amount for a contract year and material that do not meet Product specifications.
- If the Iluka Supply Agreement is terminated for failure to satisfy or waive a condition precedent (other than a failure to satisfy a condition by ILU), ILU has a right of first refusal to purchase Product from the Brown Range Project for a two-year period from the date the agreement is terminated.
- Northern Minerals free to sell excess production to third parties if Iluka does not purchase pursuant to its ROFR

### Pricing mechanism illustration



# NTU Corporate Snapshot

<u>Market Cap</u>	<u>Share Price<sup>1</sup></u>	<u>Shares on issue</u>	<u>Options</u>	<u>Cash<sup>2</sup></u>
A\$178m	A\$0.035m	5.07b	251m	\$16.2m

## Share Price Performance



Source: Iress  
 1. Trading data as at 7 July 2023  
 2. As at 31 March 2023

# Management Executing Refocused Strategy



Northern Minerals is led by Executive Chairman, Nick Curtis, with extensive experience in Rare Earths



## Nick Curtis - Executive Chairman

- 35+ years experience in mining and finance, with 25+ years of RE experience.
- Previous Executive Chairman of Lynas Corporation (ASX:LYC), after taking control of the company in 2001, he refocused it as a rare earths company developing the Mt Weld deposit in WA, and a large downstream rare earth processing plant in Malaysia, and assisted in growing Lynas into the market leading RE company ex-China.
- Founded Forge Resources in 2011, a junior ASX exploration company - acquired the Balla Balla Mine in the Pilbara in Western Australia.
- Founder of Sino Gold which listed on the ASX in 2001 and was taken over by Eldorado Gold.



## Shane Hartwig - Finance Director

- Over 30 years' experience in the finance sector including across various resource companies.
- Senior finance executive with a proven track record working as a trusted strategic corporate and commercial advisor to small and mid-cap ASX listed companies.
- 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 and is an experienced ASX listed Director/Co-Sec.



## Simon Pooley - Head of Geology

- 30 years international experience including with Rio Tinto, Ashton Mining, Dominion Mining.
- Experienced in delivering definitive/bankable feasibility studies and converting them into mining operations.



## Robin Jones - Head of Projects

- Over 30 years' experience in the mining industry and has held senior positions globally across various mining companies.
- COO of Northern Minerals for ~10 years and was the Project Director for the 2015 DFS, with over 10 years' experience in rare earths.



## Angela Glover - Head of External Relations

- Over 20 years experience in resources and industry in WA, NT and Queensland, including with BCI Minerals, BBI, Atlas Iron, WMC Resources and Alcan Gove.
- Experienced in heritage and native title management, social and external affairs management.



## Hayley Patton - Head of People & Culture

- Over 15 years' experience in senior leadership and management roles within the mining and resource sector and other industries.
- Experienced in strategic and value driven HR practices.
- Member of the Australian HR Institute.

# Board of Directors



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## Bin Cai - Executive Director

- Managing Director of Conglin International Investment Group Pty Ltd based in Brisbane.
- Record of successful strategic investments in emerging Australian resources companies based on his long experience in resources investment.
- Prior to joining the Conglin Group he had 8 years' experience with the China Investment Bank.



## Adam Handley - Non-Executive Director

- Partner and China Markets Leader for MinterEllison, the largest law firm in Australia.
- Current National Vice President & Director of the Australia China Business Council (ACBC), a member of the Murdoch University Vice Chancellor's Advisory Board and a Board member of the World Services Group.



## Liangbing Yu (Non-Executive Director)

- Current National Vice President & Director of the Australia China Business Council (ACBC), a member of the Murdoch University Vice Chancellor's Advisory Board and a Board member of the World Services Group.
- Over 20 years' experience in business operations and management, including investment analysis and strategy setting and implementation.
- Liangbing is based in Beijing China and has a dual bachelor degree in Investment Economics and Economic Law from Huazhong University of Science and Technology.

# Summary

- 1 Aiming to be a leading ex-China supplier of Dysprosium and Terbium, which have strong demand tailwinds from global electrification
- 2 Strategic partnership with Iluka de-risks and accelerates the project development via a supply agreement and reduced project complexity
- 3 Significant existing intellectual property of resource and process flow sheet developed from three years of pilot plant operation
- 4 Strong geological potential at Browns Range from Wolverine deposit and surrounding tenements, with ambition to grow mine life >20 years

# Appendix A: Mineral Resource

## Global Mineral Resource Estimate (October 2022)<sup>1,2</sup>

Deposit	Classification	Mt	TREO %	Dy <sub>2</sub> O <sub>3</sub> kg/t	Y <sub>2</sub> O <sub>3</sub> kg/t	Tb <sub>4</sub> O <sub>7</sub> kg/t	HREO %	TREO kg
Wolverine	Measured	0.14	0.7	0.61	3.99	0.09	88	986,000
	Indicated	3.24	0.95	0.83	5.53	0.12	89	30,751,000
	Inferred	3.05	0.98	0.84	5.68	0.13	89	29,756,000
	<b>Total<sup>1</sup></b>	<b>6.44</b>	<b>0.96</b>	<b>0.83</b>	<b>5.57</b>	<b>0.12</b>	<b>89</b>	<b>61,492,000</b>
Gambit West	Measured	-	-	-	-	-	-	-
	Indicated	0.12	1.8	1.62	10.98	0.22	94	2,107,000
	Inferred	0.13	0.51	0.4	2.67	0.05	81	674,000
	<b>Total<sup>1</sup></b>	<b>0.25</b>	<b>1.11</b>	<b>0.97</b>	<b>6.56</b>	<b>0.13</b>	<b>91</b>	<b>2,781,000</b>
Pilot Plant Stockpiles	Measured	-	-	-	-	-	-	-
	Indicated	0.16	0.95	0.83	5.5	0.12	89	1,489,000
	Inferred	0.03	0.26	0.2	1.35	0.03	79	89,000
	<b>Total<sup>1</sup></b>	<b>0.19</b>	<b>0.82</b>	<b>0.71</b>	<b>4.71</b>	<b>0.1</b>	<b>88</b>	<b>1,577,000</b>
Gambit	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	0.21	0.89	0.83	5.62	0.11	96	1,878,000
	<b>Total<sup>1</sup></b>	<b>0.21</b>	<b>0.89</b>	<b>0.83</b>	<b>5.62</b>	<b>0.11</b>	<b>96</b>	<b>1,878,000</b>
Area 5	Measured	-	-	-	-	-	-	-
	Indicated	1.38	0.29	0.18	1.27	0.03	69	3,953,000
	Inferred	0.14	0.27	0.17	1.17	0.03	70	394,000
	<b>Total<sup>1</sup></b>	<b>1.52</b>	<b>0.29</b>	<b>0.18</b>	<b>1.26</b>	<b>0.03</b>	<b>69</b>	<b>4,347,000</b>
Cyclops	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	0.33	0.27	0.18	1.24	0.03	70	891,000
	<b>Total<sup>1</sup></b>	<b>0.33</b>	<b>0.27</b>	<b>0.18</b>	<b>1.24</b>	<b>0.03</b>	<b>70</b>	<b>891,000</b>
Banshee	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	1.66	0.21	0.16	1.17	0.02	87	3,484,000
	<b>Total<sup>1</sup></b>	<b>1.66</b>	<b>0.21</b>	<b>0.16</b>	<b>1.17</b>	<b>0.02</b>	<b>87</b>	<b>3,484,000</b>
Dazzler	Measured	-	-	-	-	-	-	-
	Indicated	-	-	-	-	-	-	-
	Inferred	0.21	2.33	2.17	13.93	0.29	95	5,000,000
	<b>Total<sup>1</sup></b>	<b>0.21</b>	<b>2.33</b>	<b>2.17</b>	<b>13.93</b>	<b>0.29</b>	<b>95</b>	<b>5,000,000</b>
<b>Total<sup>1</sup></b>	Measured	0.14	0.7	0.61	3.99	0.09	89	986,000
	Indicated	4.9	0.78	0.67	4.46	0.1	87	38,300,000
	Inferred	5.76	0.73	0.62	4.22	0.09	89	42,166,000
	<b>Total<sup>1</sup></b>	<b>10.81</b>	<b>0.76</b>	<b>0.64</b>	<b>4.33</b>	<b>0.09</b>	<b>88</b>	<b>81,450,000</b>

## Browns Range Project Overview

- The 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
- The Wolverine, Gambit West, Gambit and Area 5 deposits are all within the Browns Range Project area and are all located wholly within the granted mining lease M80/627
- The Project is located on the western side of the Browns Range Dome, a Paleoproterozoic dome formed by a granitic core intruding the Paleoproterozoic Browns Range Metamorphics (meta-arkoses, feldspathic metasediments and schists) and an Archaean orthogneiss and schist unit to the south
- The dome and its aureole of metamorphics are surrounded by the Mesoproterozoic Gardiner Sandstone (Birringudu Group)
- The Jaru Native Title Claim is registered over the project area and Northern Minerals entered into a Co-existence Agreement with the Jaru Traditional Owners in June 2014

1. Rounding may cause some computational discrepancies (TREO (metal) tonnes estimated from Mt x TREO%)

TREO = Total Rare Earth Oxides – La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>;

HREO = Heavy Rare Earth Oxides – Total of Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

HREO% = HREO/TREO\*100

2. 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

# Contact



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