

# Growing Cummins Range Rare Earths Project

Company Update

*December 2021*

**ASX | REE**

rarex.com.au

RARE

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# Corporate Snapshot

## Capital Structure

| | |
|---|---|
| ASX Code | REE |
| OTCQB Code | REEEF |
| Share Price (3rd December 2021) | $0.10 |
| Shares on Issue | 452m |
| Market Capitalisation | $45.2m |
| Cash and Investments | $5.5m |
| Enterprise Value | $39.7m |

## Board and Management

| | |
|---|---|
| Chairman | John Young |
| Managing Director | Jeremy Robinson |
| Non-Executive Director | Shaun Hardcastle |
| Non-Executive Director | Cameron Henry |
| Exploration Manager | Guy Moulang |
| General Manager Projects | James Durrant |
| Company Secretary | Oonagh Malone |

## Shareholders

| | |
|---|---|
| Top 40 Shareholders | ~40% |
| Number of Shareholders | ~5,200 |
| Substantial Shareholder | Simon Lee AO (6.5%) |



# Investment Overview

- **Strategically located asset**: 100% owned Cummins Range Rare Earths Project in Western Australia – Tier-1 mining jurisdiction
- **Substantial resource:** 18.8mt at 1.15% TREO + 0.14% $Nb_2O_5$, including 6.5mt at 1.98% TREO + 0.21% $Nb_2O_5$
- **Outstanding recent results :** Exploration has recently confirmed high grade extensions at depth and along strike
- **Rare Earths prices increased strongly this year** due to strong demand growth in green-energy industry, global trade tensions
- **Well funded with cash and investments**





**Highly leveraged to the booming global rare earths sector, with a quality asset in a Tier-1 location, Tier-1 partners and a clear growth strategy**

# Rare Earths and Niobium - a massive growth opportunity

Niobium and Rare Earth Elements share common end uses undergoing massive growth through the technology revolution, with Niobium backed up by the ever increasing growth in steel alloys

## End Market Applications

**Electric Vehicle motors**

Passenger, commercial. Electric trains and other transportation. Approx. 1kg NdPr per EV1

**Consumer electronics and appliances**

Smart speakers, computer speakers, headphones, fridges, air conditioners.

**Automotive parts and sensors**

Micromotors, sensors, speakers

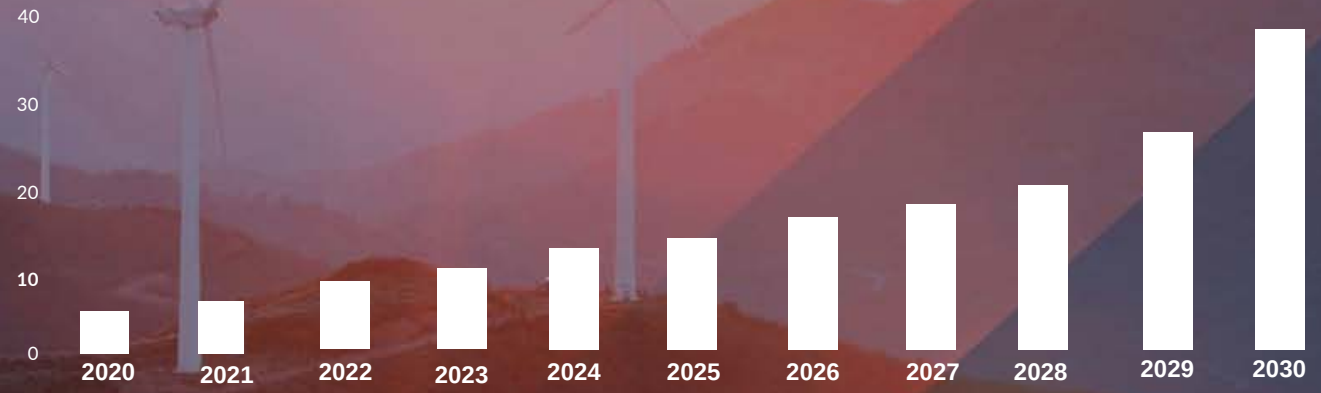
**Wind generation**

Electric motors

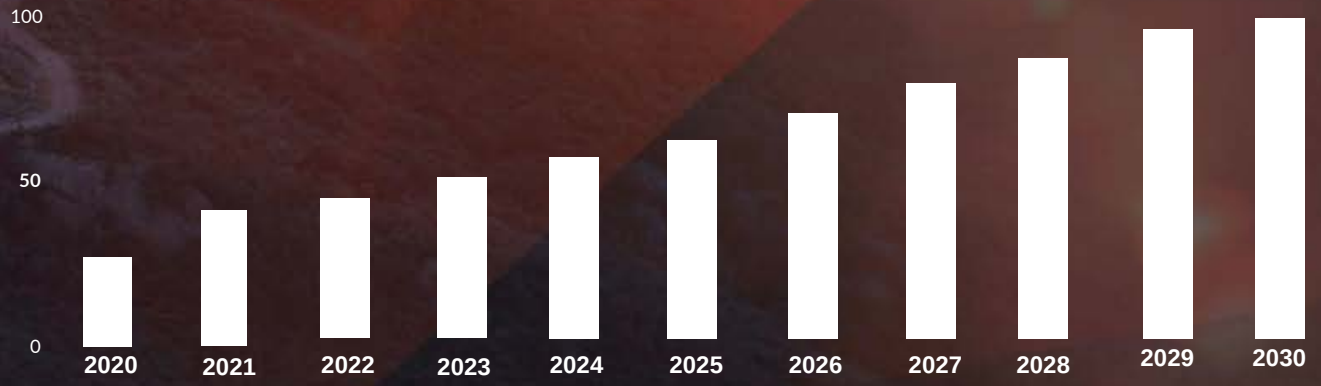
At least 150kg per MWs

## Global End Market Growth

### Forecast Passenger EV Sales (M)[1]




### Forecast Wind Power Installation (GW)[2]



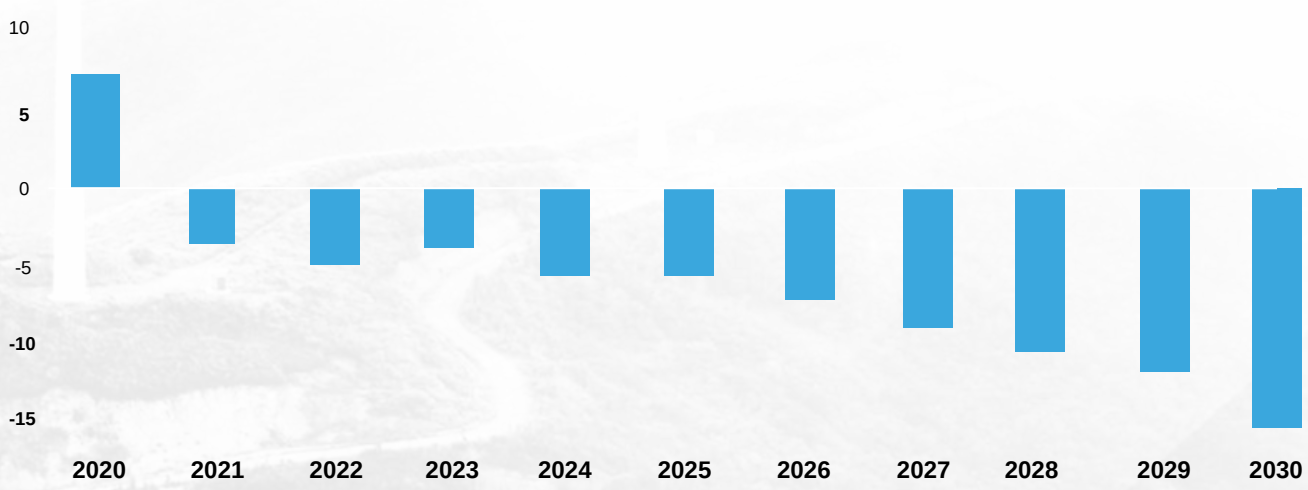

1 Source: BloombergNEF 2 Source: IRENA (International Renewable Energy Agency)

# Rare Earths Prices on the Rise

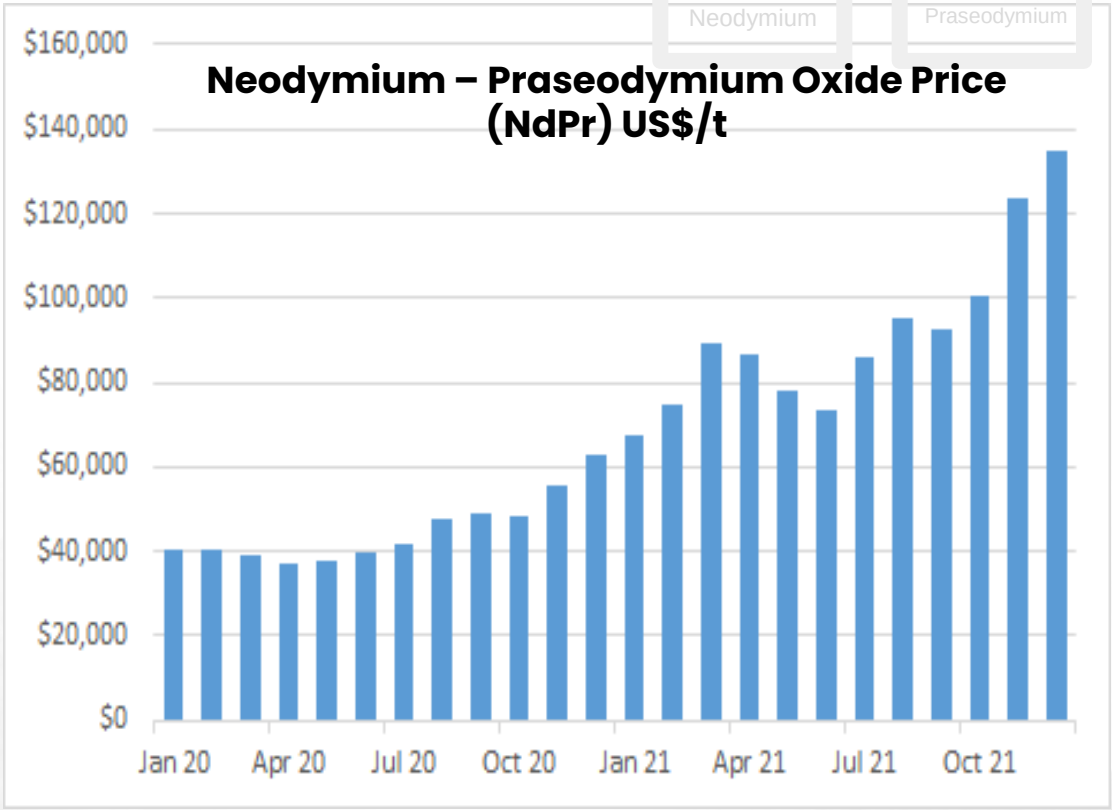
**NdPr Prices risen sharply over last few months - Currently US$136/kg**

## NdPr Market Balance

**Forecast NdPr Oxide market balance (kt)**



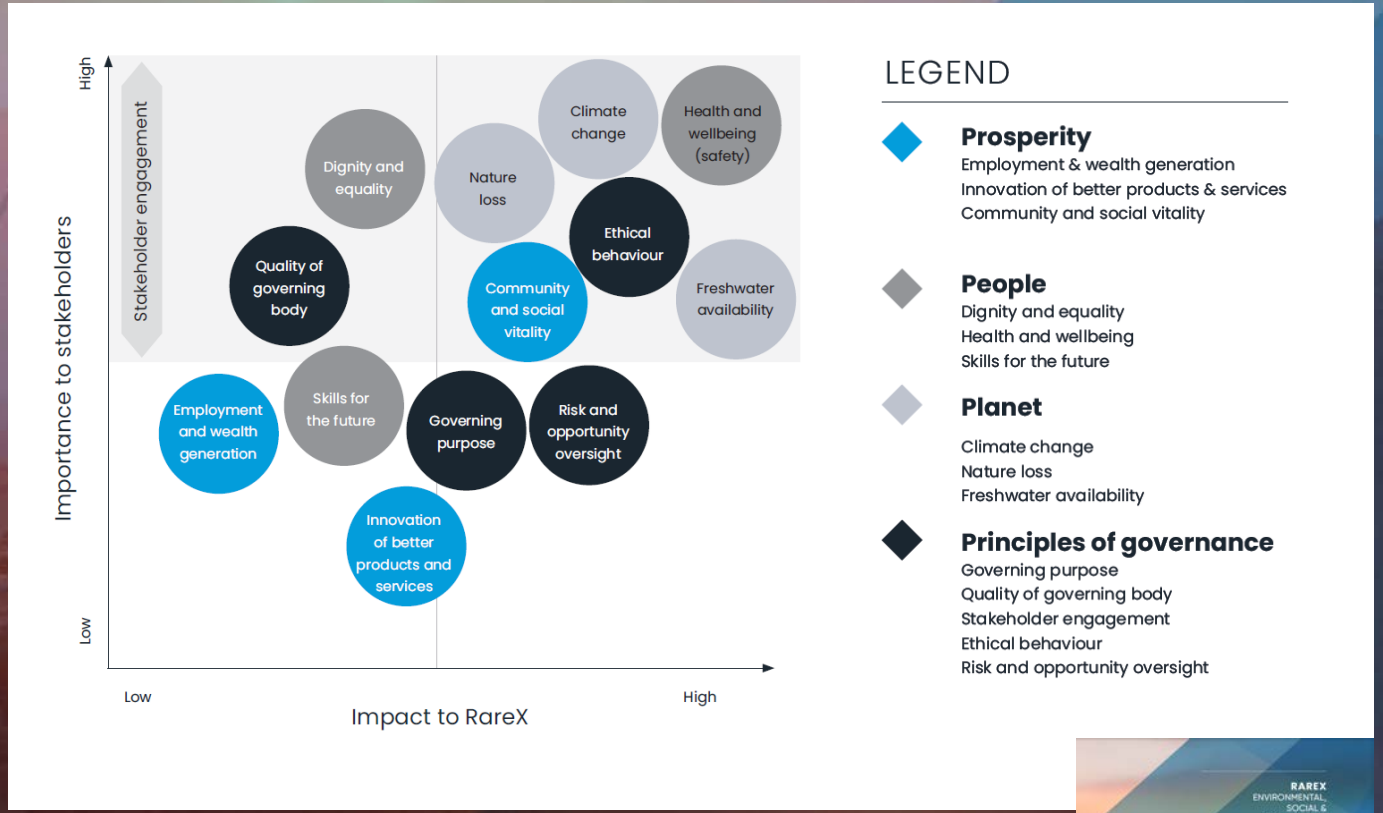

+ NdPr supply shortage to occur in 2022-2023
+ 2020-2030 demand growing at 10% p.a




Source: Shanghai Metals Exchange

# ESG Framework

- RareX Announced its Maiden ESG framework in September 2021 developed in conjunction with industry leader Price Waterhouse Cooper.
- RareX has aligned itself with the World Economic Forum “WEF” Principles
- RareX already contributes 3.5% of its annual exploration expenditure the Kimberly sustainable development trust for the benefit of the Jaru People on who’s land it operates



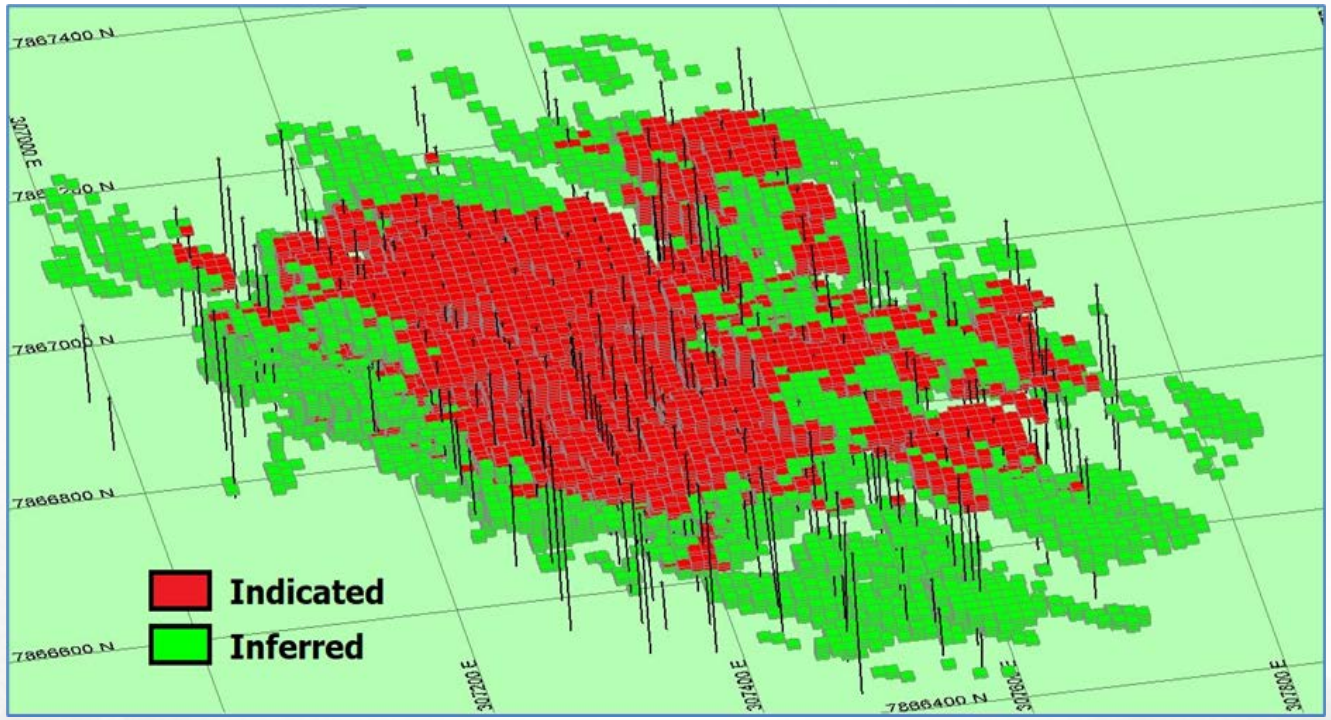

**RareX has an important role to play in supplying rare earth minerals that are crucial for the low carbon economy, such as electric vehicles and wind turbines, as well as advanced technology for telecommunications and military purposes**




*ESG Framework*

# Significant JORC Resource

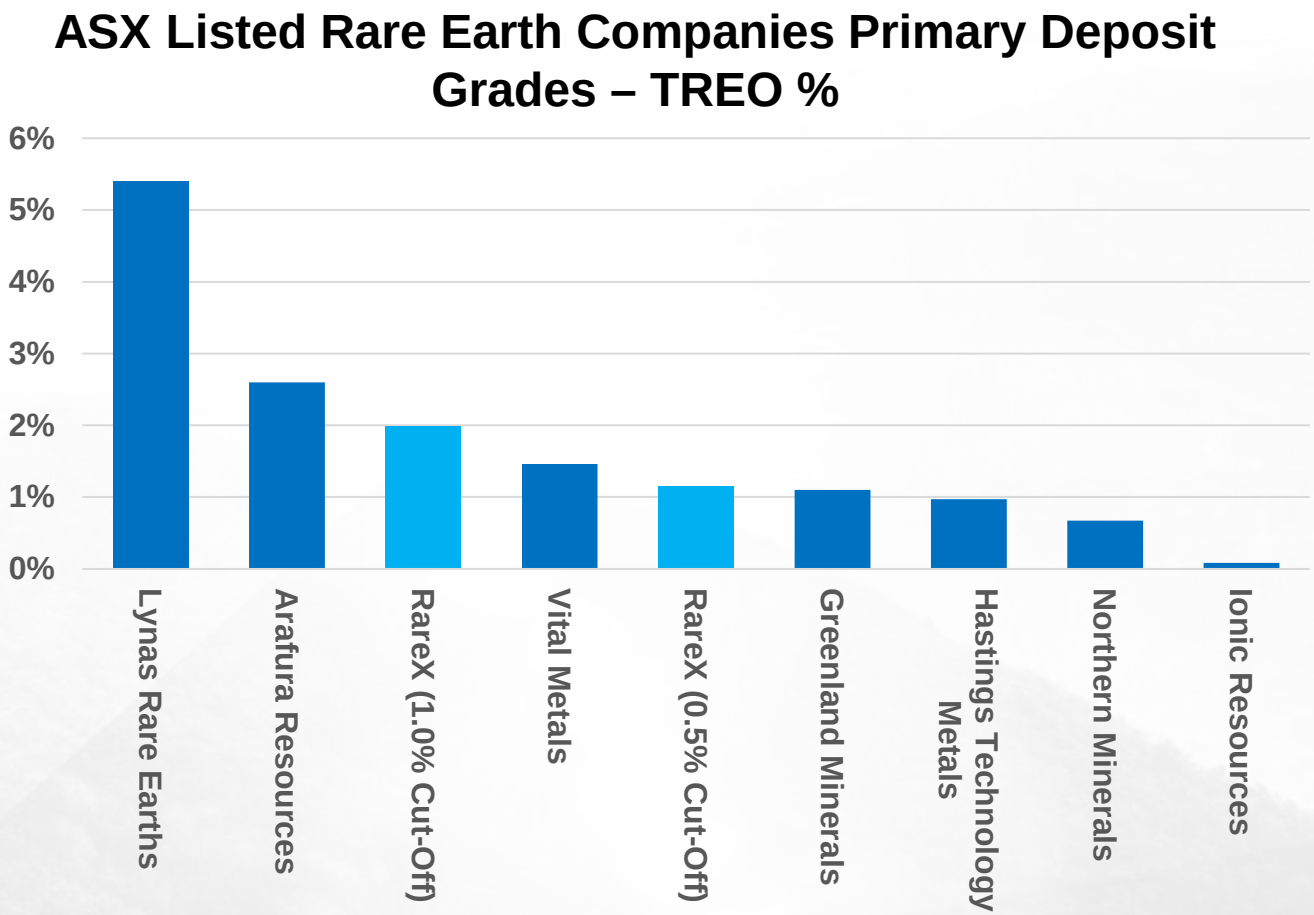
- A large rare earth and niobium rich carbonatite deposit located in the Kimberley region of Western Australia
- Globally significant Indicated and Inferred JORC Resource 18.9Mt at 1.15% TREO + 0.14% $Nb_2O_5$
- High-grade tonnes to **6.5Mt at 1.98 % TREO (inc. 0.38% NdPr) + 0.21% $Nb_2O_5$**
- Indicated Resource of 11.1Mt at 1.3% TREO + 0.17% $Nb_2O_5$
- **Competitive Basket price of US$34/kg**
- **Current Niobium Price of U$S93/kg**



# Cummins Range – Grade and Scale

| 0.5% Cut Off | Tonnes Mt | TREO % | NdPr % | $Nb_2O_5$ % | HREO ppm |
|---|---|---|---|---|---|
| **Indicated** | 11.1 | 1.34 | **0.27** | 0.17 | 830 |
| **Inferred** | 7.7 | 0.88 | **0.18** | 0.11 | 540 |
| **Total** | 18.8 | 1.15 | **0.23** | 0.14 | 711 |

| 1.0% Cut Off | Tonnes Mt | TREO % | NdPr % | $Nb_2O_5$ % | HREO ppm |
|---|---|---|---|---|---|
| **Indicated** | 4.9 | 2.11 | **0.41** | 0.23 | 1,150 |
| **Inferred** | 1.6 | 1.60 | **0.31** | 0.16 | 800 |
| **Total** | 6.5 | 1.98 | **0.38** | 0.21 | 1,060 |




NOTE: Doesn't include potential niobium credits
See Appendix 1 for further details

# Growing the Resource

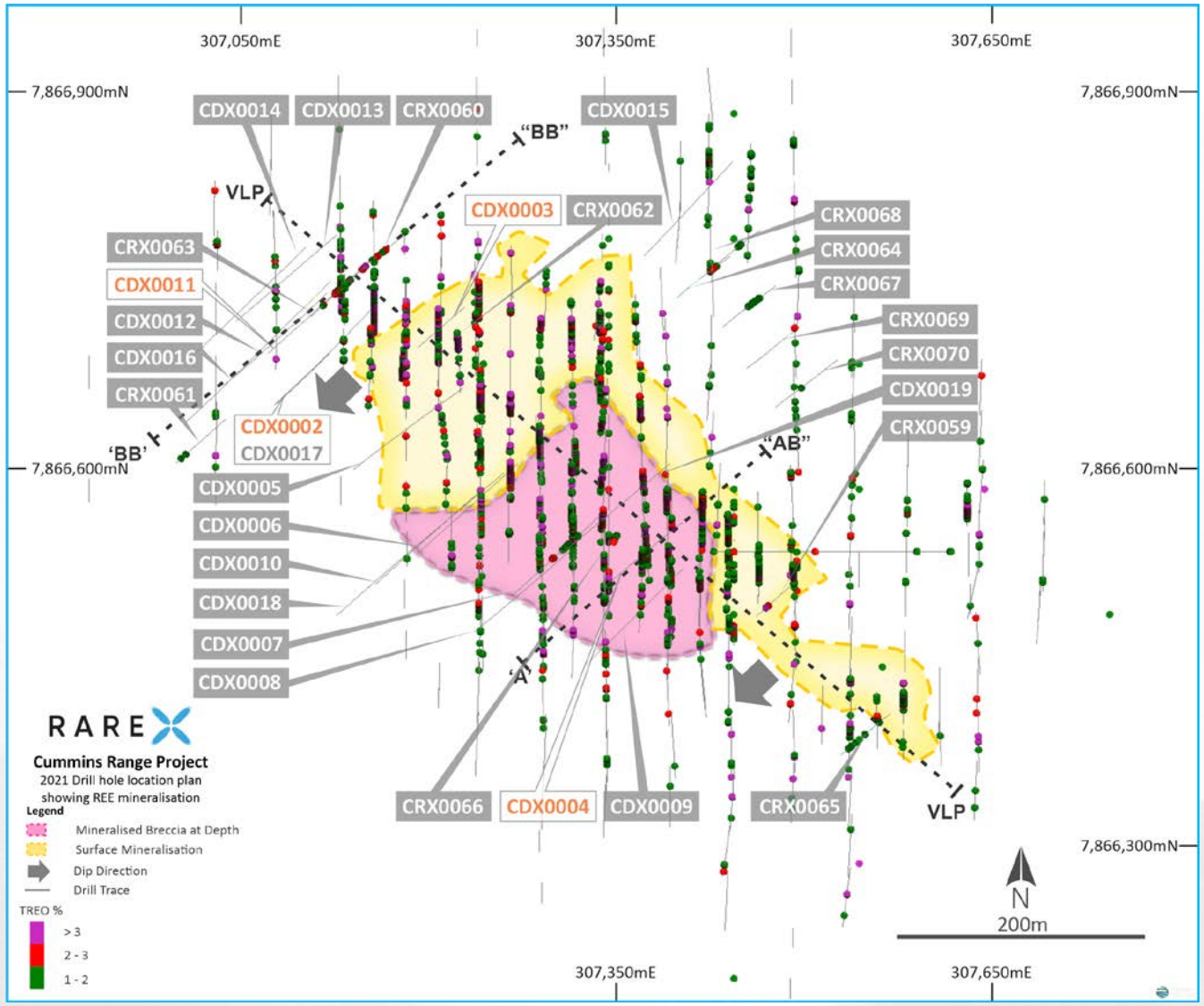
## Cummins Range unique geology points to high grade potential

- **Carbonatite intrusive complex** with REE mineralisation controlled by hydrothermal fluids
- Historic drilling mostly orientated in the wrong direction
- Recognition of high grade main fault / breccia zone for first time provides for high grade depth potential
- Possibility of multiple structures

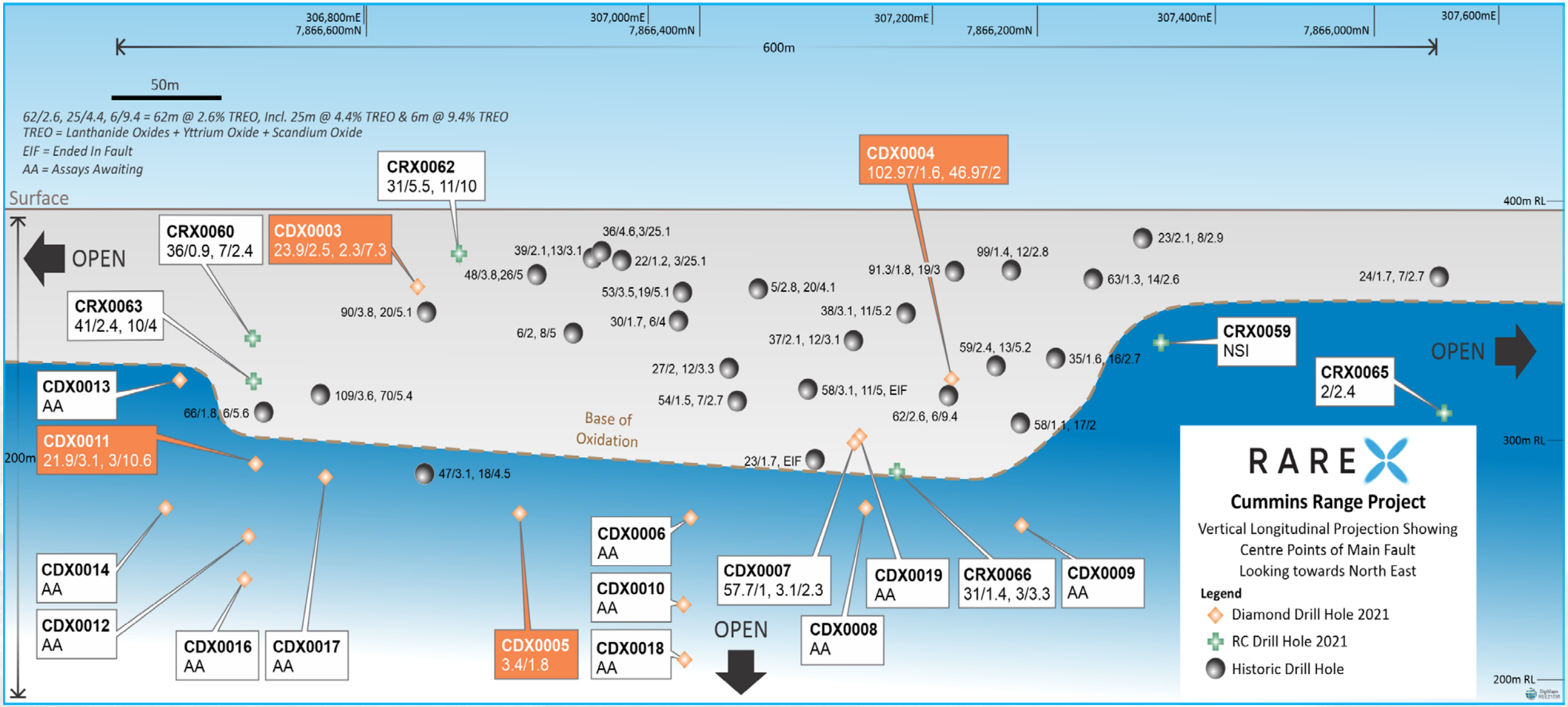
## 5,272m drill program complete

- 2,271m of RC Drilling complete
- 3,001m of Diamond drilling – first time since 1982

## Potential to grow the resources significantly



# Primary Mineralisation Confirmed

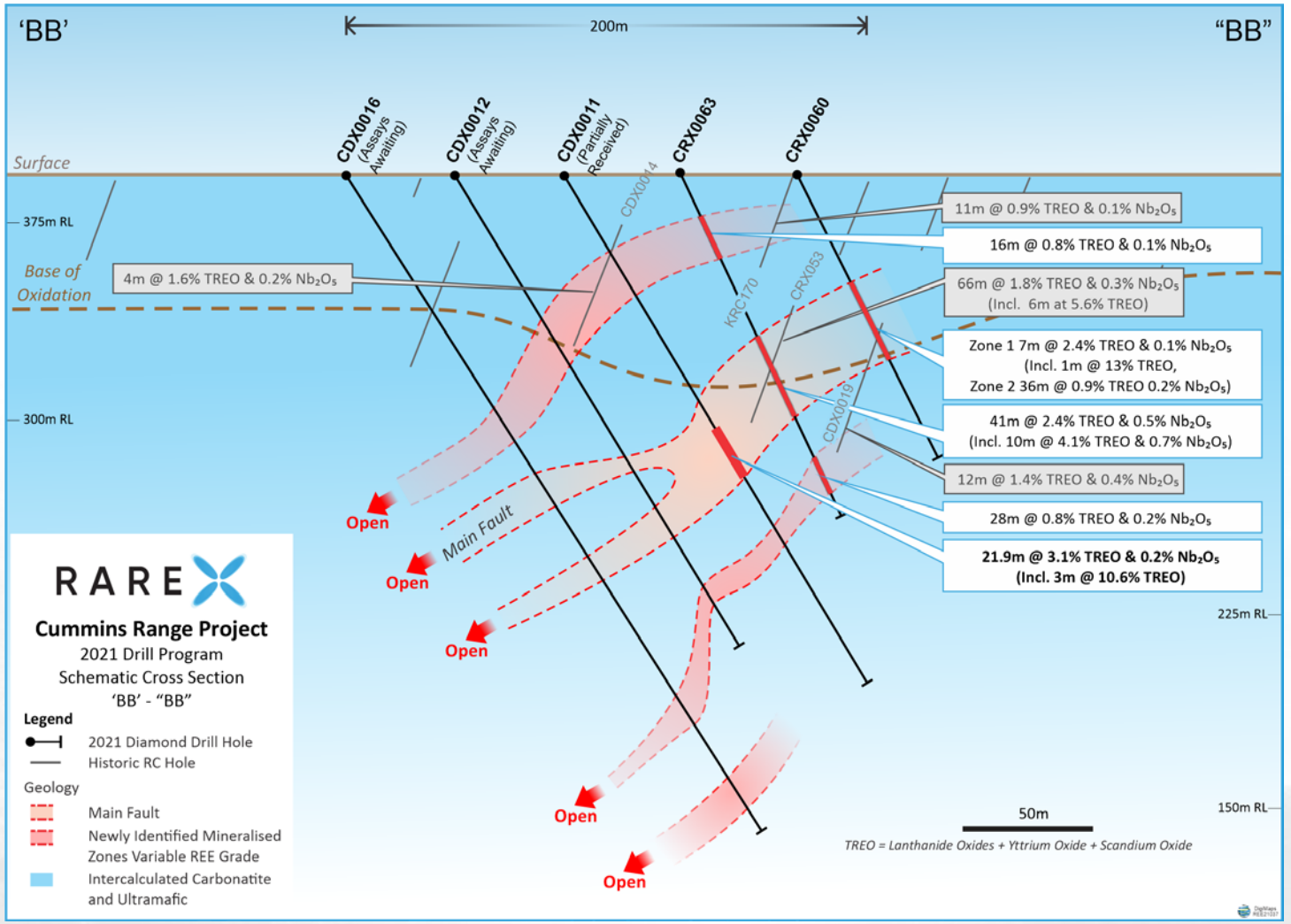


# Initial Diamond Results

First batch of assays confirm **true width of the Main Fault to be >40m** and identify new mineralised position, highlighting the deposit's exceptional growth potential

- CRX0063 intersects multiple mineralised zones, including:
  - Main Fault – 41m at 2.4% TREO and 0.51% Nb2O5 from 57m, including:
  - **10m 4.1% TREO and 0.75% Nb2O5**
- CDX0011 iterecets high grade primary mimerlisation including
  - **22m at 3.1% TREO and 0.2% Nb2O5**
  - **Inc; 3m at 10.6%TREO**
- CDX0012 and CDX0016 Intersects significant primary mineralisation – open down dip

Multiple stacked lodes emerging



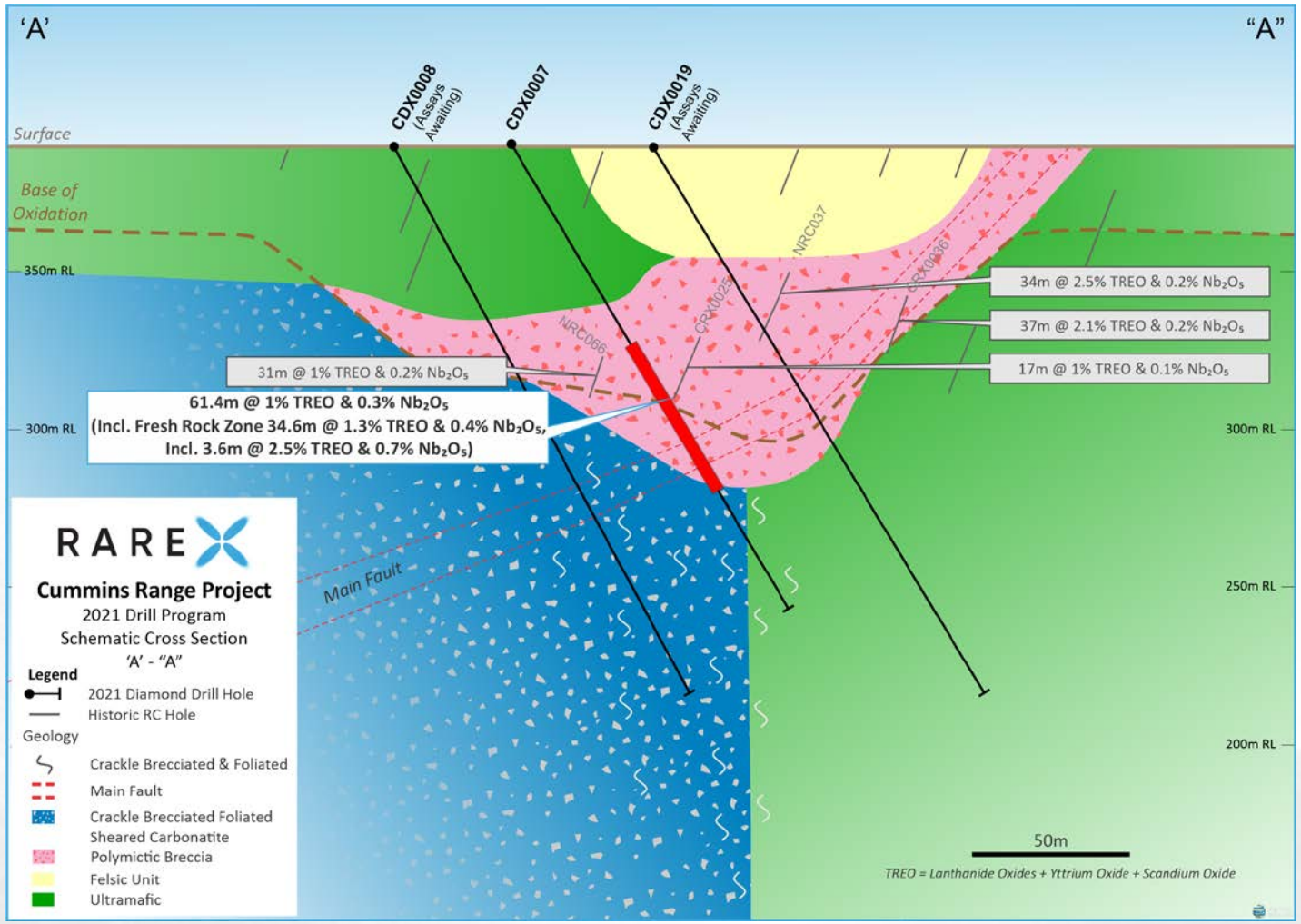
# Initial Diamond Results

Proof of High Grade primary rare earths and niobium mineralisation in CDX007

- Primary Zone – 34.6m at 1.3% TREO and 0.4% Nb2O5 including 3.6m at 2.5% TREO and 0.7% Nb2O5

Strong economic drivers in the primary zone including

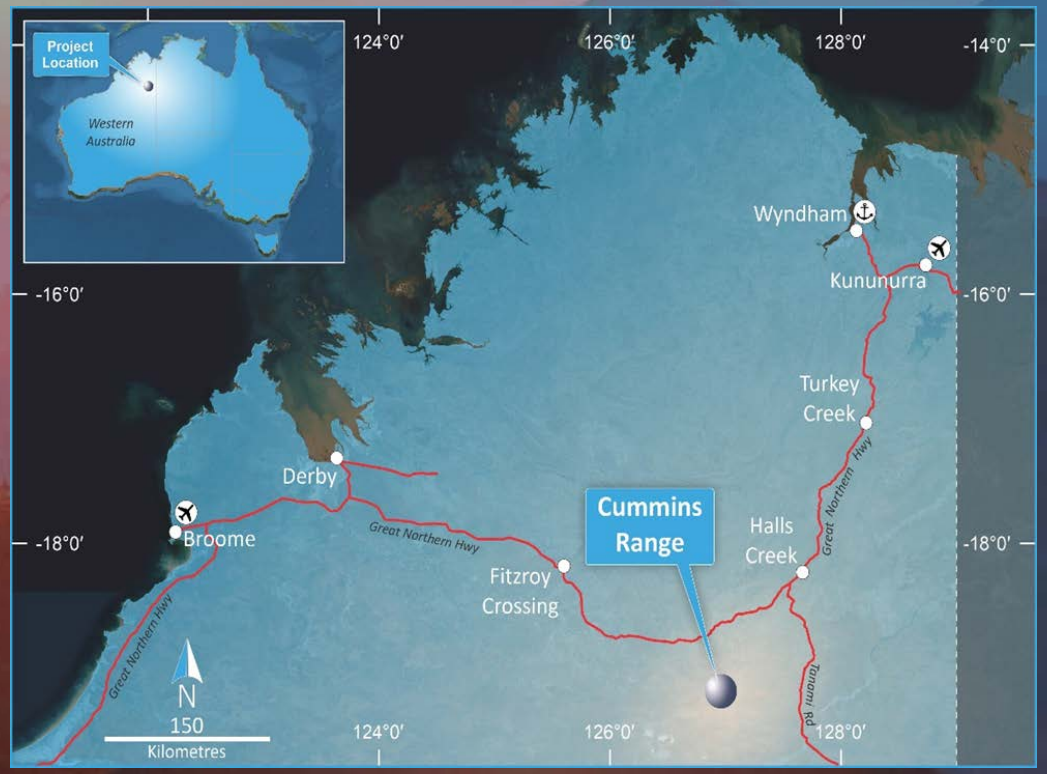
- Good NdPr content up to 24% - comparable to Mt Weld
- Strong Niobium by-product potential 0.4% average and high grade 0.7%



# Study Work

- Recent Exciting Drilling results – potential change in Scope
- Recently appointed GM Projects Mr James Durrant
- Scoping Study scheduled for completion March Quarter 2022
- Industry Leading experts now all appointed

| Consultant | Scope |
|---|---|
| **Gavin Beer** | Rare Earth Element, metallurgical and general technical counsel |
| **Primero** | Lead consultant. Process design and cost estimation |
| **METS Group** | Metallurgical programme lead |
| **Mining Plus** | Pit design, pit optimisation mining method |
| **AMC** | Geometallurgical modelling |
| **Animal Plant Resources** | ESG integration, stakeholder engagement, approvals and permitting |
| **Advisian** | Hydrogeology |
| **PWC** | ESG integration |



# Key Investment Takeaways

1. High-quality, advanced Rare Earths Project in WA
2. Resource upgrade announced
3. Confirmation of high grade primary mineralisation
4. Rare Earths prices rising strongly
5. Cosmos Exploration IPO completed



With a $45m market capitalisation, the Company is significantly undervalued relative to its peers in an exciting growth area

# Appendix 1

| Company | Grade TREO % | Measured & Indicated Resource | Inferred Resource | Total | Location | Stage | Source |
|---|---|---|---|---|---|---|---|
| **Lynas Rare Earths** | 5.400% | 29.5 | 25.9 | 55.4 | WA | Production | https://lynasrareearths.com/wp-content/uploads/2019/05/190522-Clarification-of-Mineral-Resource-and-Ore-Reserve-Figures-1931834.pdf |
| **Arafura Resources** | 2.600% | 34.9 | 21 | 55.9 | NT | Pre-Production | https://wcsecure.weblink.com.au/pdf/ARU/02387631.pdf |
| **RareX (1.0% Cut-Off)** | 1.980% | 4.9 | 1.6 | 6.5 | WA | Pre-Production | https://www.asx.com.au/asxpdf/20210719/pdf/44yf8jbtf7lt8v.pdf |
| **Vital Metals** | 1.460% | 17.6 | 77.2 | 94.8 | Canada | Pre-Production | https://vitalmetals.com.au/portfolio/nechalacho-project/ |
| **RareX (0.5% Cut-Off)** | 1.150% | 11.1 | 7.7 | 18.8 | WA | Pre-Production | https://www.asx.com.au/asxpdf/20210719/pdf/44yf8jbtf7lt8v.pdf |
| **Greenland Minerals** | 1.100% | 451 | 559 | 1010 | Greenland | Pre-Production | https://ggg.gl/assets/Uploads/Presentations/2020/16e8cc7762/20200303_PDAC-Greenland-Session.pdf |
| **Hastings Technology Metals** | 0.970% | 21.1 | 6.3 | 27.4 | WA | Pre-Production | https://www.investi.com.au/api/announcements/has/b07ebf9d-03c.pdf |
| **Northern Minerals** | 0.670% | 4.6 | 4.7 | 9.3 | WA | Pre-Production | https://northernminerals.com.au/browns-range/resource-and-exploration/ |
| **Ionic Resources** | 0.084% | 9.5 | 65.1 | 74.6 | Uganda | Pre-Production | https://ionicre.com.au/makuutu-uganda/ |