

ASX Release
30 August 2024

Cummins Range Development Update

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Highlights

- Cummins Range remains Australia's largest un-developed rare earths project; and a significant phosphate deposit
- Rare earths metallurgy and engineering placed on hold until metal prices recover
- Early phosphate product generation (Stage-1) being investigated as a standalone stage consistent with the August 2023 Scoping Study
- Phosphate metallurgical program has produced phosphate product samples which are being tested with the offtake market in Australia and South East Asia
- Alternative phosphate technology in testing which is investigating a potential reduction in start-up costs for Cummins Range – technology test results due in November
- Ordco remain under MoU for Offtake and product R&D which may be supplied with Stage-1 product from the alternative technology process
- Cummins Range supply chain to Wyndham Port remains de-risked with infrastructure sharing agreement; port land option and freight agreement
- Native Title heritage agreement discussions continue following new representatives on the PBC board and negotiating sub-committee

RareX Limited (ASX: REE – **RareX** or the **Company**) is pleased to provide a development update for its 100% owned rare earths and phosphate project (**Cummins Range**, the **Project**) in the Kimberley region of Western Australia. Cummins Range is Australia's largest undeveloped rare earth project and a significant deposit of phosphate.

James Durrant, Managing Director, comments: *"Whilst the prevailing and underlying commodity prices remain suppressed, causing us to pause rare earths engineering works, we are pleased that we've contemplated this project as a rare earths and phosphate project. The technology we are now testing for phosphate extraction has the potential to de-couple one product's reliance from the other's".*

Development Update

Context

Cummins Range is a significant deposit containing 1.6Mt of rare earths and 24Mt phosphate¹. It is located 50km off the Tanami Road, 135km south east of Halls Creek. The Tanami Road is undergoing an upgrade lead by Main Roads to fully seal the road to the Northern Territory border. This will result in a sealed haulage corridor through Halls Creek and on to Wyndham Port. At Wyndham Port, RareX has an option over 4Ha of port-side land² and is in the advanced stages of an infrastructure sharing agreement with KMG Logistics Pty Ltd (**KMG**) to utilise the iron ore belt loading facility to load ocean going vessels with bulk mineral products³.

¹ ASX Announcement 25 January 2024: Cummins Range Mineral Resource Estimate update. Indicated: 77.4Mt at 0.46% TREO and 6.7% P₂O₅; Inferred: 446.9Mt at 0.28% and 4.2% P₂O₅.

² ASX Announcement 27 November 2023: Land secured at Wyndham Port for product storage & transfer

³ ASX Announcement 08 November 2023: Infrastructure sharing for bulk loading facility at Wyndham

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Environmental baseline monitoring has been completed to the requisite level for pre-engagement with the regulator⁴ and ongoing monitoring is occurring to ensure a continuation of baseline data pre-operations.

The native title heritage agreement process has slowed following a dissolution and reforming of the Jaru PBC board and the sub-committee tasked with negotiating the agreement. Additionally, the Jaru's legal counsel has changed and there is less involvement of the KLC. Whilst this is resulting in some delays, the new board of directors and sub-committee members are more closely related to the land around Cummins Range and most of the members were present on the site visit hosted by RareX for the traditional owners in October 2023. More-so the new PBC board members, sub-committee and new lawyer are positively and actively engaged in reviewing, modifying where necessary, and executing the advanced long-form draft agreement.

In August 2023, RareX released its second Scoping Study⁵ which proposed a development path that leveraged the phosphate content of the Resource as a low capital entrance into operations (Stage-1) before expanding into rare earths (Stage-2). Rock phosphate and mineral concentrate are fertilisers in their own right and precursor ingredients for synthetic fertilisers. Increasingly high-quality phosphate is used in the high purity phosphoric acid sector for batteries. RareX have an MOU with Nitron⁶, the world's second largest fertiliser distributor, and with OrdCo⁷, the local fertiliser distributor in Kununurra, for phosphate-product related work. The Ord River agricultural region is heavily reliant on imported, synthetic fertilisers, often sourced from the east coast at substantial costs to local businesses. RareX have been engaging with offtake discussions in conjunction with laboratory-generated product samples to identify mineral concentrate product pathways across South East Asia.

Product markets

Prevailing rare earth prices have been poor over the past 12-18 months impacting all rare earths companies. Lynas recorded NdPr prices in their latest quarterly at \$46/kg⁸, far from the \$110/kg modelled by many prospective projects, including RareX. However, the rare earths outlook remains strong and supply deficits are broadly forecast to begin by 2025⁹, in some forecasts, price recovery begins as early as later this year¹⁰ restoring to modelled, incentivisation, prices within the next few years. Despite the short term price movement, RareX has considered the price forecasts considered in its mineral resource estimate and scoping study and does not believe amendments are required.

Phosphate prices have also softened since the start of 2024, however, the market penetration of lithium-iron-phosphate batteries continues to increase. The Shenxing 1000-km battery is an example of this new and growing technology¹¹.

The poor market, in particular for rare earths, has meant lower than anticipated traction on mineral offtake commercial arrangements, however, positive feedback has been received pertaining to quality, consistency and volume which will feed into the engineering studies for rare earths once re-started.

⁴ ASX Announcement 10 May 2024: RareX finalises key baselines studies to support permitting at Cummins Range

⁵ ASX Announcement 22 August 2023: Enhanced Scoping Study for Cummins Range

⁶ ASX Announcement 9 November 23: RareX signs offtake MOU with Nitron for Stages 1-2 products

⁷ ASX Announcement 2 November 2022: RareX signs MOU for Supply of Phosphate Products Locally

⁸ <https://lynasrareearths.com/investors-media/reporting-centre/financial-reports/>

⁹ <https://www.bcg.com/publications/2023/five-steps-for-solving-the-rare-earth-metals-shortage>

¹⁰ <https://www.mining.com/web/rare-earths-prices-seen-rebounding-in-second-half-of-2024-analysts/>

¹¹ <https://www.catl.com/en/news/6239.html>

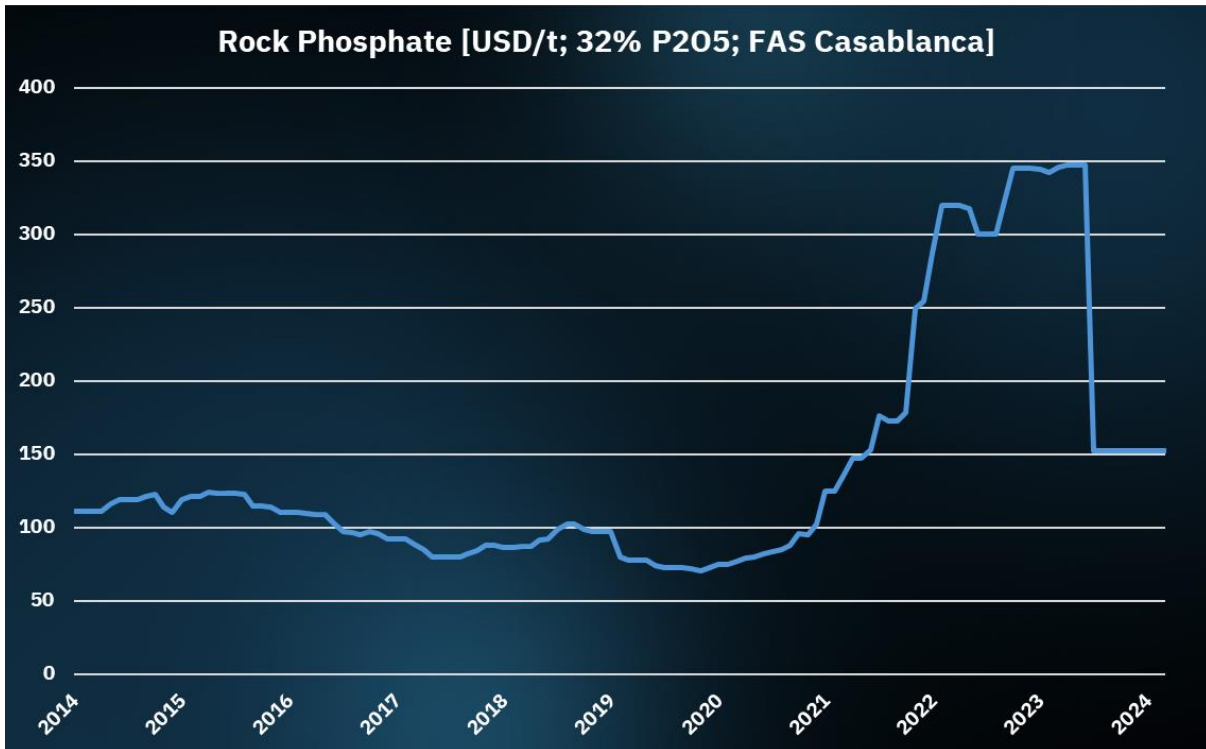


Figure 1: Phosphate price history sourced from <https://www.indexmundi.com/>.

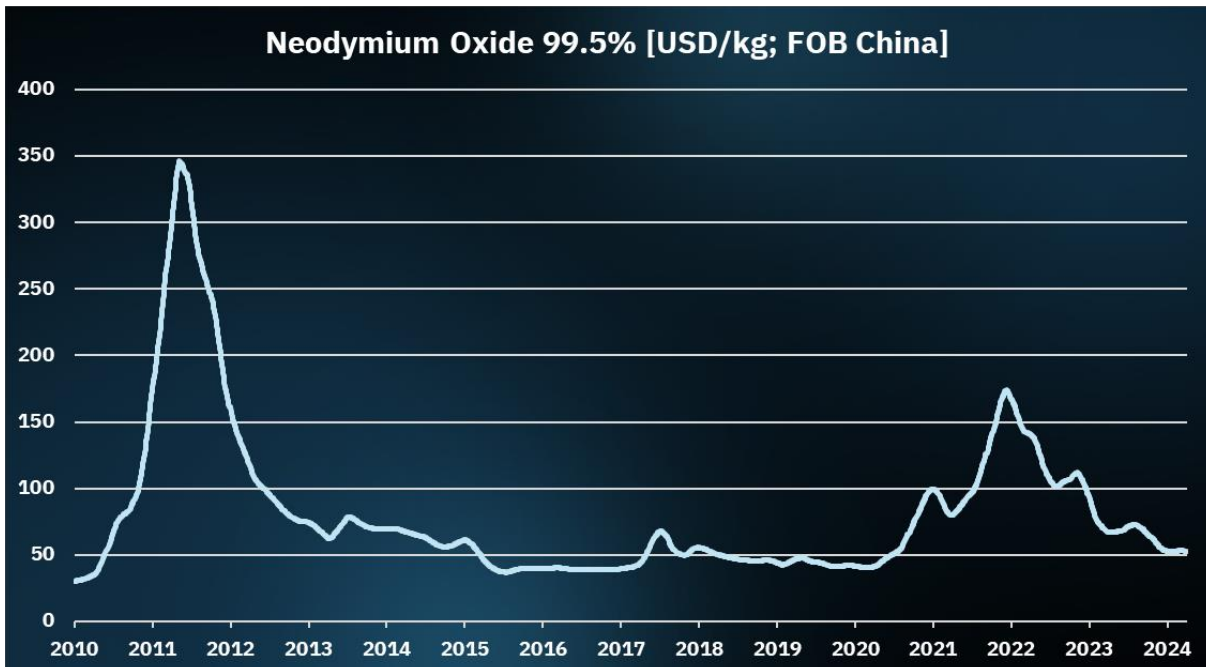


Figure 2: Neodymium Oxide price history sourced from <https://www.asianmetal.com/>

Development approach

Due to the prevailing metal market conditions, the PFS has been revised to focus on improving metallurgical solutions for phosphate extraction, including via biotechnological methods, so that significant capital cost savings over conventional flotation methods may be achieved. Leveraging the clean nature of the apatite mineral, a possible pathway exists to extract phosphate using a fraction of the infrastructure previously considered.

The refined PFS continues to progress environmental studies to de-risk and add value to the project with regulatory engagements planned for September 2024.

Phosphate processing

RareX sees the staged development of Cummins Range as a practical, fundable and lower risk approach which plays to the strengths of the deposit where parts of the shallow orebody are more enriched in phosphate relative to rare earths.

Flotation is the obvious initial beneficiation method at scale due to favourable lab results and the use of the same facilities in the subsequent rare earths flotation, however this remains a relatively capital intense approach. Therefore, a more targeted, microbe assisted, leaching of the phosphate with Australian and US partners, already engaged, could enable much lower start-up costs and significantly reduced logistics costs for mine gate products going to market.

Bench scale and comparative glasshouse trials indicate a clear economic benefit to farmers relying on large quantities of synthetic fertilisers. Specifically, initial tests of the bio-microbial phosphate product by our partners appear to compete very well in substitution of synthetic fertilisers in soils similar to those in the Ord River region, one of RareX's natural initial customer bases.

RareX is currently testing sample product from Cummins Range with our partners to ascertain its suitability as a feedstock for their process and to determine the quality of the resulting highly concentrated phosphate product.

The phosphate product will then be tested on Ord River-like soils, as well as others, in further glass house trials and, if successful, RareX will develop an updated study with consideration to adjusted capital costs whilst at the same time collaborate with the Ord River Cooperative to conduct field trials in the region, which is key to acclimatise and on-board the local farmers. This would be a stepping stone to expand the potential customer base.

Given Australia's reliance on phosphate-based fertilisers internationally, developing this technology to pilot scale at Cummins Range and then into full production is anticipated to attract significant local and national support.

For initial processing and chemical testing of the product six weeks are currently planned. A nominal further six to eight weeks will then be required for plant trials at glasshouse scale in order to test performance on crops in a range of soil types. Samples are currently enroute for processing by our partners.

This announcement has been authorised for release by the Board of the Company.

Competent Person's Statement

The mineral resource estimate referred to in this announcement was reported by the Company in accordance with Listing Rule 5.8 on 25 January 2024. The Company confirms that it is not aware of any new information or data that materially affects the information included in the announcement, and the material assumptions and technical parameters underpinning the mineral resource estimate continue to apply and have not materially changed.

RARE DYKE Classification	Tonnes (Mt)	P ₂ O ₅ (%)	TREO + Y ₂ O ₃ (ppm)	HREO (ppm)	Nd ₂ O ₃ (ppm)	Pr ₆ O ₁₁ (ppm)	Nb ₂ O ₅ (ppm)	Sc ₂ O ₃ (ppm)	ThU (ppm)
Indicated	44.4	6.0	5560	280	880	260	990	90	80
Inferred	363.7	3.9	2960	160	480	140	570	70	40
Total	408.2	4.1	3240	180	520	160	610	70	40

PHOS DYKE Classification	Tonnes (Mt)	P ₂ O ₅ (%)	TREO + Y ₂ O ₃ (ppm)	HREO (ppm)	Nd ₂ O ₃ (ppm)	Pr ₆ O ₁₁ (ppm)	Nb ₂ O ₅ (ppm)	Sc ₂ O ₃ (ppm)	ThU (ppm)
Indicated	33.0	7.6	3430	290	670	170	500	80	100
Inferred	83.1	5.6	2390	200	460	120	450	60	60
Total	116.2	6.2	2690	230	520	140	460	70	70

COMBINED Classification	Tonnes (Mt)	P ₂ O ₅ (%)	TREO + Y ₂ O ₃ (ppm)	HREO (ppm)	Nd ₂ O ₃ (ppm)	Pr ₆ O ₁₁ (ppm)	Nb ₂ O ₅ (ppm)	Sc ₂ O ₃ (ppm)	ThU (ppm)
Indicated	77.4	6.7	4,650	280	790	230	780	90	90
Inferred	446.9	4.2	2,860	170	480	140	550	70	40
Total	524.3	4.6	3,120	190	520	150	580	70	50

Notes:

1. Due to effects of rounding, the total may not represent the sum of all components
2. TREO (ppm) includes: Light Rare Earth Oxides (LREO): La₂O₃, CeO₂, Pr₆O₁₁, Nd₂O₃; and Heavy Rare Oxides (HREO): Sm₂O₃, Eu₂O₃, Gd₂O₃, Tb₄O₇, Dy₂O₃, Ho₂O₃, Er₂O₃, Tm₂O₃, Yb₂O₃, Lu₂O₃; + Y₂O₃
3. ThU comprises ThO₂ + U₃O₈ (ppm)
4. Mineral Resource is reported from all blocks, classified as either Indicated or Inferred, where interpolated block grade is >2.5% P₂O₅

About RareX Limited – ASX: REE

RareX is a critical minerals company specialising in rare earths and niobium in hard rock carbonatites.

The **exploration** focus of the business is on the new Khaleesi Project in the East Yilgarn which is a district-scale, elevated-niobium, alkaline intrusive complex - a breeding ground for mineralised carbonatites. Data from Tier-1 exploration programs with elevated niobium values suggests a highly fertile system.

The Company's **engineering** and commercial focus is on offtake and approvals at the mid-study-level, Cummins Range Project (+\$330M NPV₈ post-tax*) - a carbonatite hosted rare earths and phosphate project, containing magnet grade rare earths and battery grade phosphates and technically Australia's largest undeveloped rare earths project.

RareX have been curating a portfolio of carbonatite related prospects within which the newly acquired Khaleesi Project represents the exploration flagship. RareX will continue to develop and optimise its portfolio.

RareX maintains material investments in Kincora Copper (ASX:KCC), Cosmos Exploration (ASX:C1X) and Canada Rare Earth Corporation (LL.V).

For further information on the Company and its projects visit www.rarex.com.au

* The forecast financial information was released on 22 August 2023. The Company confirms that the material assumptions underpinning the production target and forecast financial information continue to apply and have not materially changed