

# ABx Group Limited: Large Batch Tests Confirm High-Purity Rare Earth Results

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Melbourne, Australia - [ABx Group Ltd.](#) (ASX:ABX) reported the latest results from their program to produce a mixed rare earth carbonate (MREC) product from its Deep Leads ionic adsorption clay rare earth project, located 45km west of Launceston in northern Tasmania.

- Over 98% of total rare earth elements (REEs) retained with near-complete removal of major impurities
- First mixed rare earth carbonate (MREC) product sample on track for delivery by end of November

This work forms part of ABx's program to produce a mixed rare earth carbonate (MREC), the saleable product used in downstream refining to produce separated rare earth oxides, rare earth metals and magnets essential for electric vehicle motors, guidance systems, wind turbines, and other clean-energy technologies.

In this latest testwork, ANSTO conducted two impurity removal (IR) trials on rare earthenriched leach solutions produced from a 1.2 kg sub-sample of the 100 kg bulk sample, taken from trial pit DLP002 within the Deep Leads resource area (Figure 1\*). At near-optimum conditions (pH 5.9 and 6.2) the key impurity, aluminium, was almost completely removed, while more than 98% of rare earth elements remained in solution.

A critical metric for MREC product quality is the ratio of aluminium to total rare earths (Al:TREE ratio) in the solution following impurity removal. In these two tests, the Al:TREE ratio was less than 0.005, which is likely to be maintained in the final MREC product. This is a very low level of aluminium and is likely to be appealing to customers.

This result provides further evidence that the Deep Leads resource represents the prized combination of high Dy and Tb grade, high rare earth recovery using low-cost conditions and low impurities that is conducive to producing a high value MREC product at low cost.

ABx Group Managing Director and CEO Mark Cooksey said:

"These latest results are extraordinarily good. We are eagerly looking forward to the production of the MREC sample later this month.

Because of the very high DyTb content, high extractions, low impurities and a significant resource, ABx Group continues to receive strong interest from potential customers."

## Bulk Sample Material

The source of the material for these tests is a 100 kg bulk sample from trial pit DLP002 from the Deep Leads resource (Figure 1\*).

## Leaching Performance

ABx has previously reported excellent leach test results, involving 300 g samples, achieving 62-66% extractions of dysprosium (Dy) and terbium (Tb) at 25 wt% solids loading. These results were achieved using exceptionally benign conditions (pH 4.5, ambient temperatures and pressure), which is anticipated to significantly reduce rare earth extraction costs.

In this work, a 1.2 kg sub-sample was leached using identical conditions, producing similarly strong results - 62% extraction for Dy and 63% for Tb.

## Impurity Removal Tests

The objective of impurity removal is to precipitate impurities, such as aluminium, without simultaneously precipitating rare earths. The solid impurities can then be separated from the remaining rare earth solution. In previous work starting with a 300 g sub-sample, pH 6 was identified as a 'sweet spot' where the aluminium is removed and the rare earths are retained in solution. In this work, two independent impurity removal tests

were performed, each using 1.5 kg of the solution produced from the leaching of the 1.2 kg sub-sample described above. In each test, ammonium bicarbonate was added to increase the pH to the target value and the solution was held at this pH for 30 minutes. The amounts of rare earths and impurities remaining in solution were measured and used to calculate the amount of rare earths and impurities precipitated. One test was conducted at pH 5.94 and the other at pH 6.24.

The results were outstanding, as expected. In both tests, almost all the aluminium precipitated and less than 2% of the rare earths precipitated. This means that over 98% of the rare earths were retained in solution with near complete removal of major impurities.

ABx Group Managing Director and CEO Mark Cooksey commented further:

"I continue to be excited these results. Each phase of testwork reinforces the advantages of the Deep Leads resource. These results demonstrate that a high proportion of rare earths can be successfully carried through to an MREC product using low-cost chemistry."

#### Next Steps

ANSTO has commenced production of the first MREC product using 50 kg of the 100 kg bulk sample, with completion expected before the end of November. The sample will be distributed to potential customers and offtake partners for evaluation.

#### Column Leach Investigation

In partnership with external engineering experts, ABx conducted a formal Processing Options Analysis for Deep Leads, considering a range of process and project design options for the project. A key conclusion was that column leach tests should be conducted to confirm that the high extractions obtained in diagnostic leach tests in tanks are also observed in a column leach arrangement.

ABx has engaged ANSTO to conduct initial column leach tests. These are planned to commence in November, with results available by early 2026.

#### Strategic Importance of MREC Production

Producing a high-purity MREC from a bulk sample represents a critical milestone for ABx in the development of the Deep Leads project. Existing and prospective rare earth refineries are seeking high quality MRECs produced at low cost. MRECs with high proportions of Dy and Tb are in particular demand, because these elements have the most acute supply risk.

ABx has excellent prospects of meeting these requirements because:

1. Achieving high extractions at ambient temperatures and pressures with minimal acid in a short time is likely to lead to lower cost and lower impurities in the MREC product.

For most clay-hosted rare earth deposits globally, minimal rare earth extraction is achieved using these process conditions.

2. The ABx resource has a higher proportion of Dy and Tb, which is likely to lead to an MREC with a higher proportion of Dy and Tb compared to peers, and hence an MREC of higher value.

Magnet rare earth prices remain high, with Benchmark reporting Dy oxide (DDP China) at over US\$200/kg and Tb oxide (DDP China) at almost US\$1,000/kg. Furthermore, CIF Europe prices for Dy and Tb are over three times higher than Chinese domestic prices, illustrating the potential premium for non-China sources of rare earths.

ABx has previously executed a Memorandum of Understanding with [Ucore Rare Metals Inc.](#) (CVE:UCU) (OTCMKTS:UURAF), which is focussed on rare-earth processing facilities in North America, and ABx is also in discussions with additional potential offtake partners.

#### ABx Rare Earth Resource

The Deep Leads - Rubble Mound and Wind Break discoveries contain a resource estimate of 89 million tonnes<sup>8</sup> averaging 844 ppm total rare earth oxides (TREO). The resource contains 36 ppm Dy+Tb (Dy+Tb is 4.4% of TREO), the highest of any ionic clay deposit in Australia and among the highest globally.

This resource estimate has been defined from only 29% of the project's mineralised outline.

\*To view tables and figures, please visit:  
<https://abnnewswire.net/Ink/0M9236BA>

#### About ABx Group Limited:

ABx Group Limited (ABx) (ASX:ABX) is a uniquely positioned Australian company delivering materials for a cleaner future.

The three priority projects are:

- Heavy rare earths: Supplying light and heavy rare earths from Tasmania into Western supply chains
  - o Processing Options Analysis conducted in partnership with external experts
- Clean fluorine chemical production: Producing industrial chemicals from aluminium smelter by-product (ALCORE)
  - o Continuous pilot plant under construction in Bell Bay, Tasmania
- Near-term bauxite production: Mining bauxite resources for the aluminium, cement and fertiliser industries
  - o Agreements executed with Good Importing International for bauxite projects in Queensland and New South Wales, and \$2.7 million initial payment has been received
  - o Approvals well advanced for DL130 bauxite project in northern Tasmania

ABx endorses best practices on agricultural land and strives to leave land and environment better than we find it. We only operate where welcomed.

Source:  
ABx Group Limited

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