

More Success for the Browns Range Project

Highlights

- Hydrometallurgical testing delivers best results to date from the third, five-day pilot plant test run completed at ANSTO in July with increases in recovery to 92% for dysprosium and 92.6% for total rare earth oxide (TREO).
- Western Australian Environmental Protection Authority (EPA) has released its report, which considers the Project can be managed to meet the EPA's environmental objectives subject to its recommended conditions.
- Australian Department of Environment has determined that the Project is not required to be assessed under the Environment Protection and Biodiversity Conservation Act.
- Key consultants appointed for the Browns Range Feasibility Study.
- Feasibility Study progressing well and on track for completion by the end of 2014.

Northern Minerals (ASX: NTU) is pleased to provide an update on the progress of the Browns Range Project (Browns Range or Project) in Western Australia (WA).

Work on the Browns Range Feasibility Study commenced last month following the successful outcomes from the Pre-Feasibility Study and is due to be completed by the end of 2014. First production at Browns Range is targeted for 2016.

Northern Minerals' Managing Director George Bauk said recent developments included more outstanding results from hydrometallurgical testing, as well as good progress with regards to environmental approvals.

"The final run of the hydromet pilot plant has delivered a further improvement in recoveries, which is building additional value in the Project as we move toward development," Mr Bauk said.

"Our project development work programs remain on schedule and backed by our recent funding initiatives, we are now focussed on having our Feasibility Study complete by the end of the year."

¹ In this announcement dysprosium is to be read as dysprosium oxide (Dy₂O₃) unless otherwise stated.



\$21M

additional NPV
from recovery
improvements



Powering Technology.

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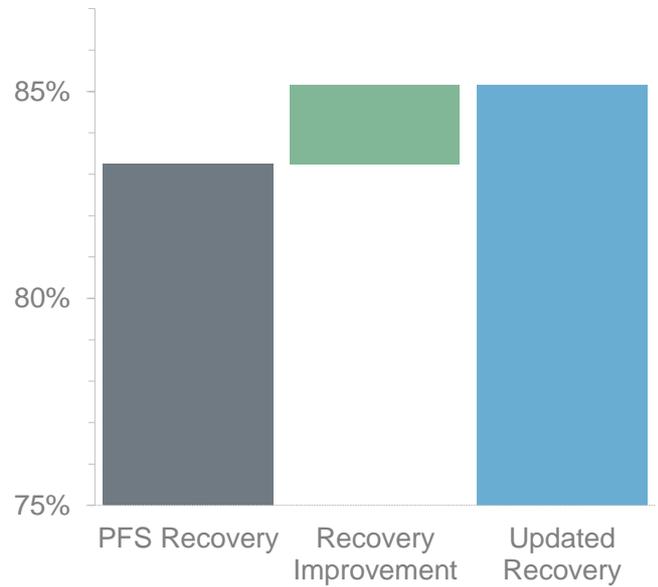
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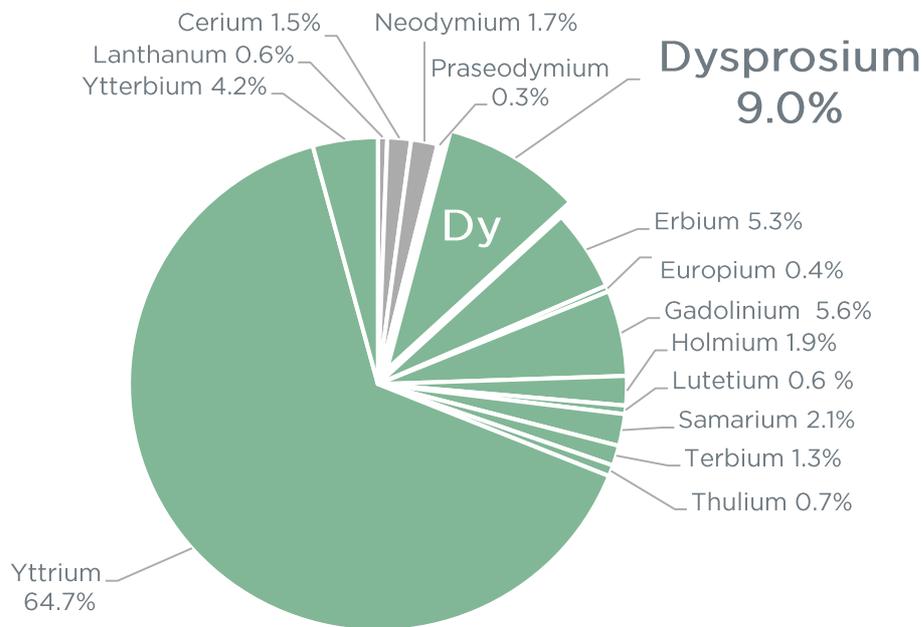
Northern Minerals has been conducting a series of continuous pilot scale testing of the Project’s hydrometallurgical processing plant at ANSTO in New South Wales (NSW). The third and final five-day continuous pilot plant run was completed last month and achieved the best recovery results of the test work to date.

The third pilot scale testing achieved improved hydrometallurgical process recoveries, including 92% for dysprosium and 92.6% for total rare earth oxide (TREO). These recoveries have improved from the results from the second test run completed earlier this year, which were 90% for dysprosium and 88.2% for TREO. The resulting improvement on the PFS in overall dysprosium recovery (i.e. including the beneficiation plant recovery) is shown alongside.

This increase in recovery will result in an additional 6,000kg of dysprosium and 157,000kg of TREO being produced on average per annum. Using the PFS input data, this recovery improvement equates to around \$21M of additional net present value (NPV) for the Project.



Overall Dy₂O₃ Recovery



Carbonate Rare Earth Oxide (REO) Distribution

The improvement is due to the increased bake residence time and, most importantly, the steady state continuous operation. One of the key objectives of the third test run was to evaluate and ensure reliability of the kiln operation. This was successfully achieved with the kiln running uninterrupted for five consecutive days.

A total of approximately 120kg of rare earth carbonate was produced in the third run for customer validation. The material, which typically contained a mixed rare earth carbonate grading 48%, again featured a high proportion of dysprosium - a breakdown of the HREO distribution is included in the pie chart above. Samples of this material will also be sent to customers for further test work.

All engineering data required for the future scale up of the plant was captured during the test work, which included thickening and filtration test work by vendors to allow confident scale up to commercial units.

Environmental Approvals

WA's Environmental Protection Authority (EPA) has advised that it considers that the Project can be managed to meet the EPA's environmental objectives subject to the EPA's recommended conditions being adopted. The EPA's report to the WA Minister for Environment (Minister) is currently open for a two week appeal period which closes on 1 September 2014. Following this appeal period the Minister will make the final decision.

Northern Minerals has also commenced preliminary planning and drafting work on the secondary approvals required for the proposed mining operation. These approvals will be considered by the relevant decision making authority following the Minister's determination, and will include:

- Mining Proposal and Project Management Plan from the WA Department of Mines and Petroleum.
- Works Approval and Licences from the WA Department of Environment Regulation.
- Licences to construct bores and take water from the WA Department of Water.

In addition, the Federal Government Department of Environment has assessed Browns Range as a "Not Controlled Action" which means the Project does not require assessment and approval under the EPBC Act 1999 before it can proceed.



Rotary Kiln at ANSTO

Feasibility Study Progress

Following the release of a positive Pre-Feasibility Study in June, Northern Minerals is now underway with a full Feasibility Study into the Browns Range Project, which it is aiming for completion at the end of 2014.

The process design criteria for the Feasibility Study has been completed and Northern Minerals has appointed a number of key consultants and consultant engineers.

	<p>DRA Global has been appointed to undertake the design of the beneficiation plant, process infrastructure and also manage the overall co-ordination of the Feasibility Study.</p>
	<p>Engineering and project management firm Lycopodium has been engaged to undertake the design of the hydrometallurgical plant.</p>
	<p>Global management consultant Accenture will be responsible for project controls and procurement for the Feasibility Study.</p>

“We are pleased to have attracted companies of the calibre of DRA Global, Lycopodium and Accenture to be involved in the Feasibility Study, and look forward to a busy work schedule for the second half of 2014,” Mr Bauk said.

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About Northern Minerals:

Northern Minerals Limited (ASX: NTU) is focussed on the becoming a globally significant producer of the heavy rare earth (HRE), dysprosium. NTU has large landholding in Western Australia and, the Northern Territory that is highly prospective for this element.

NTU’s flagship project is the Browns Range Project (the Project), where it has a number of deposits and prospects containing high value dysprosium and other HREs, hosted in xenotime mineralisation. Dysprosium is an essential ingredient in the production of NdFeB (neodymium iron-boron) magnets used in clean energy and high technology solutions. As result of increasing global demand for these applications dysprosium supply is critical. The Project’s xenotime mineralisation facilitates the use of a relatively simple and cost effective processing flowsheet to produce a high grade dysprosium rich mixed rare earth oxide. Exploration is also underway at the geologically similar John Galt and Boulder Ridge projects. For more information northernminerals.com.au.

