

Ore sorter commissioned and ready for next phase R&D testwork at Browns Range Pilot Plant

Highlights

- Northern Minerals has successfully commissioned the ore sorter at its Brown Range Heavy Rare Earths Pilot Plant.
- Previous bench scale tests of system on Browns Range ore identified potential to double the feed grade to the mill, significantly reducing capital and operating costs.
- Bulk sample validation testwork with the ore sorter in place will now be undertaken in the coming months to provide a larger data set for more accurate application of predicted improvements.



Figure 1: Feeder for ore sorter commissioning

Powering Technology.

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Heavy rare earths producer, Northern Minerals Limited (ASX: NTU) (**Company**) is pleased to advise it has successfully completed the installation and commissioning of the ore sorting system at its Browns Range Pilot Plant, as forecast in the June 2021 quarter.

The Company announced in September 2020 it had gained the necessary regulatory approvals for the installation of ore sorting at Browns Range, with construction of the structural and mechanical equipment completed in the March 2021 quarter.

Now commissioning is complete, the Company will undertake further research and development (**R&D**) testwork on large bulk samples of a variety of ore sources at Browns Range to validate the technical and economic benefits of the ore sorter circuit.

Previous bench scale trials of ore sorting of Browns Range material identified the potential to more than double the feed grade to the mill, which in turn has the potential to significantly reduce operating and capital costs of the beneficiation circuit in particular.

Bulk sample validation testwork will be undertaken in the coming months to allow the Company to acquire a larger data set for more accurate application of forecast improvements, from ore sorting at Pilot Plant scale to the broader Mineral Resource endowment at Browns Range.

The results of this next phase of testwork will form an important input into the Company's current feasibility study on the development of a commercial scale beneficiation plant at Browns Range.

A standalone commercial beneficiation plant has been identified by the Board as the fastest path to full-scale production and cash flow from the project.

If approved, the proposed beneficiation plant will produce a dysprosium and terbium-rich heavy rare earth (**HRE**) concentrate product for sale.

In addition to the existing off-take agreement with thyssenkrupp, further market opportunities have been identified to produce and sell a HRE concentrate to manufacturing facilities, including within Australia, to fill forecast supply shortfalls.



Figure 2: CEO Mark Tory at the ore sorter now installed and commissioned at the Pilot Plant

Northern Minerals CEO Mark Tory said: *"With the ore sorter commissioned we are now in a position to run bulk samples from existing stockpiled ore, including lower grade material, to better define how we can apply this technology to optimise our preferred beneficiation process."*

Authorised by Mark Tory - CEO

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About Northern Minerals:

Northern Minerals Limited (ASX: NTU) (Northern Minerals or the Company) is one of a few producers of heavy rare earth element Dysprosium outside of China via production from the Browns Range Heavy Rare Earth Project in northern Western Australia.

The Company commenced the production of heavy rare earth carbonate in late 2018 as part of a three-year pilot assessment of economic and technical feasibility of a larger scale development at Browns Range. In March 2020, the operation was placed into care & maintenance as a result of COVID-19 and partially restarted operations in August 2020.

The work program provides the opportunity to gain production experience for supply to our offtake partner, thyssenkrupp, as well as allowing targeted pilot plant testwork and the assessment of various project enhancement initiatives including ore sorting and the separation of the product into individual rare earth oxides.

Through the development of its flagship project, the Browns Range Project (the Project), Northern Minerals aims to build the Western Australian operation into a significant world producer of dysprosium outside of China.

The Project is 100% owned by Northern Minerals and has several deposits and prospects containing high value dysprosium and other HREs, hosted in xenotime mineralisation.

Dysprosium is an essential ingredient in the production of DyNdFeB (dysprosium neodymium iron-boron) magnets used in clean energy, military and high technology solutions.

For more information: northernminerals.com.au.



ASX Code:	NTU	Market Capitalisation:	A\$174.4m
Issued Shares:	4,846m	Cash (as at 31 March 2021)	A\$24.4m