

Northern Minerals accelerates pathway to commercial production and cashflow

Highlights

- Completing a feasibility study for commercial-scale beneficiation plant at Browns Range a priority in 2021;
- Aiming to have first potential cashflow from the beneficiation plant in 2023 (if progression to beneficiation plant receives Board approval), at least two years earlier than otherwise anticipated;
- Continued focus on exploration to expand Mineral Resources, with drilling to recommence at Browns Range following end of northern wet season;
- Completion and commissioning of ore sorting system for Research and Development (R&D) testing at Pilot Plant expected in second quarter 2021; and
- R&D testwork continuing, with technical assessment under way for treating existing ore stockpiles through Pilot Plant.



Figure 1: Browns Range Pilot Plant Beneficiation Circuit

Powering Technology.

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Heavy rare earths producer, Northern Minerals Limited (ASX: NTU) (Northern Minerals or **Company**) is pleased to update investors on its priority work program for 2021, including the planned completion of a feasibility study for construction of a commercial-scale beneficiation plant at Browns Range

Beneficiation plant

Northern Minerals has identified a market opportunity to pursue the development of a full-scale production operation with processing via a standalone commercial-scale beneficiation plant to produce a saleable heavy rare earth xenotime concentrate product. Several facilities outside of China have been identified with capability and capacity to process the heavy rare earth xenotime concentrate produced at Browns Range.

The Board believes that committing to this accelerated pathway to commercial-scale production represents a lower risk approach compared to pursuing a full-scale version of the Browns Range Pilot Plant, which includes both the beneficiation and hydrometallurgical processing circuits to produce a more refined rare earth carbonate product.

If approved, the key driver behind Northern Minerals assessing the viability of developing the beneficiation plant first is that it could potentially deliver cashflow to the Company in 2023, at least two years earlier than the more complex project.

If positive cashflow is achieved, it will assist the Company in funding the additional studies required to assess the feasibility of ultimately expanding its processing operations to include the hydrometallurgical plant, and also downstream product separation.

In this regard, the Company is working towards completing a feasibility study for a commercial-scale beneficiation plant at Browns Range over the coming months and the decision whether or not to develop the commercial-scale beneficiation plant will be made by the Board following completion of that study.

Exploration commitment

In parallel to the feasibility study on the beneficiation plant, Northern Minerals will continue to ramp-up its ongoing investment in exploration across its Browns Range tenement package, including the immediate commitment to complete a further 8,000m of drilling before the end of June 2021.

Along with follow-up drilling of encouraging results from the initial 8,500m drilling campaign at the end of 2020, several promising new greenfields targets will be drilled in the second phase of drilling scheduled to commence immediately following the end of the northern wet season.

The Company is targeting near-surface, high grade Dazzler style mineralisation to significantly grow its Mineral Resource endowment and increase the potential life of mine at Browns Range to more than 20 years.

Pilot Plant R&D

Northern Minerals is continuing R&D testwork at its existing Browns Range Pilot Plant, which will feed into the new feasibility study on the beneficiation plant as well as future commercial studies.

The current focus of work is completing the construction and installation of the ore sorter equipment, with trial and commissioning of the system expected to occur in the second quarter of 2021.

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 is expected to potentially deliver a significant reduction in both operating (see the Company's ASX announcement dated [11 October 2018](#) for further information) and capital costs of the beneficiation circuit. Once the ore sorter circuit is commissioned, R&D testwork will be undertaken on large bulk samples of material at Browns Range to establish the technical and economic viability of the process.



Figure 2 Commissioning of the ore sorter system is expected in the second quarter 2021

Northern Minerals CEO Mark Tory said: *"We believe the time is right to accelerate our plans to achieve commercial-scale production, with positive market sentiment for strategic minerals, including heavy rare earths, being strongly reinforced so far in 2021.*

"Fundamental to this sentiment is the fact that Governments around the world are looking to both secure supply chains for strategic minerals outside of China and introduce policy settings that will ultimately drive demand, particularly through the increased take-up of electric vehicles.

"We are continuing to complete our R&D program at the Browns Range Pilot Plant to test the technical and economic feasibility of producing a dysprosium and terbium-rich heavy rare earths concentrate from xenotime ore mined at Browns Range. In conjunction with the testing, we plan to

complete a feasibility study as a priority this year for the potential development of a commercial-scale beneficiation plant and mining operation.

"We believe that focusing on the beneficiation circuit as a standalone project both simplifies the feasibility study and future funding options, which will allow us to produce a marketable xenotime concentrate product in an accelerated timeframe while continuing to assess the feasibility of ultimately expanding its processing operations to include the hydrometallurgical plant and downstream product separation."

Forward Looking Statements

This announcement includes forward-looking statements. These statements relate to the Company's expectations, beliefs, intentions or strategies regarding the future. These statements can be identified by the use of words like "will", "progress", "anticipate", "intend", "expect", "may", "seek", "towards", "enable" and similar words or expressions containing same.

The forward-looking statements reflect the Company's views and assumptions with respect to future events as of the date of this announcement and are subject to a variety of unpredictable risks, uncertainties, and other unknowns. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, many of which are beyond our ability to control or predict. Given these uncertainties, no one should place undue reliance on any forward looking statements attributable to the Company, or any of its affiliates or persons acting on its behalf. The Company does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Neither the Company nor any other person, gives any representation, warranty, assurance, nor will guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. To the maximum extent permitted by law, the Company and each of its advisors, affiliates, related bodies corporate, directors, officers, partners, employees and agents disclaim any responsibility for the accuracy or completeness of any forward-looking statements whether as a result of new information, future events or results or otherwise.

Compliance Statement - Ore Sorting Test Work

The information in this report that relates to ore sorting test work is based on information compiled by Mr Louis de Klerk (Pr Eng, B.Sc Chem Eng, Post Grad Dip in Advanced Process Design), a Competent Person who is a professional engineer and Member of the Australian Institute of Mining and Metallurgy. Mr de Klerk is a full time employee of the company. Mr de Klerk has sufficient experience that is relevant to the style of mineralisation and the type of metallurgy and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr de Klerk consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

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-performance technology solutions.

For more information: northernminerals.com.au.



ASX Code: NTU
Issued Shares: 4,437m

Market Capitalisation: A\$248.5m
Cash (as at 31 December 2020): A\$10.6m