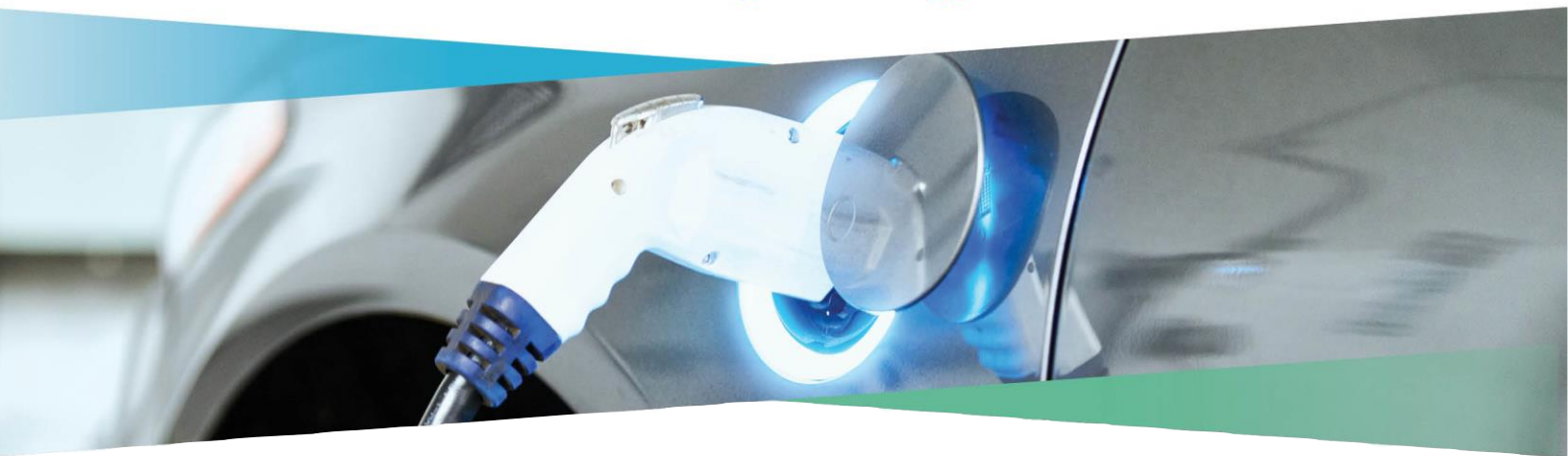




# NORTHERN MINERALS

Powering Technology.



## Quarterly Activities Report

MARCH 2019

Northern Minerals is the only heavy rare earth producer outside China. Operation of the Browns Range Heavy Rare Earth Pilot Plant Project in the East Kimberley region of Western Australia continued during the quarter as the Company assesses the technical and economic feasibility of a full scale operation.



Northern Minerals Limited (ASX:NTU; Northern Minerals or the Company) is focused on production from the Browns Range Heavy Rare Earth Pilot Plant Project in northern Western Australia. Through the development of its flagship project, the Browns Range Project (the Project), Northern Minerals is the first and only meaningful producer of dysprosium outside of China.

The pilot plant is continuing to assess the technical and economic feasibility of a full-scale commercial operation. Northern Minerals is continuing to increase output from the pilot plant to steady state to assess the quality of the rare earth carbonate produced. Test work has identified areas of new knowledge that have been applied to the pilot plant.

Corporate Overview



## Highlights:

- Maiden Mineral Resource estimate for the Dazzler deposit at a grade that is more than three times the average for Browns Range
- Pilot plant at Browns Range is continuing to assess the technical and economic feasibility of a full-scale commercial operation
- Browns Range access road has been added to the Infrastructure Australia's Infrastructure Priority List
- Dysprosium price increased by 20% during the March quarter
- Placement to sophisticated investors to raise \$20 million before costs
- Subsequent to the Quarter, a further \$15 million will be raised to help paydown the loan on the R&D.
- The Australian Taxation Office (ATO) agreed to release 50% (\$10.78 million) of the Company's claim for retained research and development (R&D) refundable tax offset in relation to the 2017/18 tax year



## Browns Range Project Update

The Company has constructed and is operating a pilot scale project aimed at assessing the technical and economic feasibility of a full-scale commercial operation. The testwork program has commenced and first pilot plant production of rare earth carbonate was achieved in the December quarter 2018. At the end of the March 2019 quarter, a total of 28,068kg of Rare Earth Carbonate had been produced to test the pilot plant operation and to collect data to feed back into the processing flowsheet.

The Company will continue to ramp up output from the pilot plant to steady state to assess the quality of the rare earth carbonate produced. The Company expects that incremental steps will be made from new knowledge from the testwork program to adjust both the rate of production and the quality of product.

The Browns Range access road has been included as one of the priorities in the Infrastructure Priority List recently published by Infrastructure Australia. Infrastructure Australia is an independent statutory body that is the key source of research and advice for governments, industry and the community on nationally significant infrastructure needs. Infrastructure Australia has a mandate to prioritise and progress nationally significant infrastructure investments.

Following the drill program conducted in the September 2018 quarter, the results of which were reported to the ASX on 11 September 2018, the Company announced a maiden Mineral Resource estimate for the high-grade Dazzler deposit.



Figure 1: Browns Range Pilot Plant



## Maiden Mineral Resource Estimate at Dazzler

The Company announced a maiden Mineral Resource estimate for the high-grade Dazzler deposit at the Browns Range Heavy Rare Earth Project.

The maiden Inferred Mineral Resource for the Dazzler deposit has been estimated at 144,000 tonnes at 2.23% TREO comprising 3,200,000 kg TREO using a cut-off grade of 0.15% TREO. This compares to the overall TREO grade for Browns Range of 0.66% TREO.

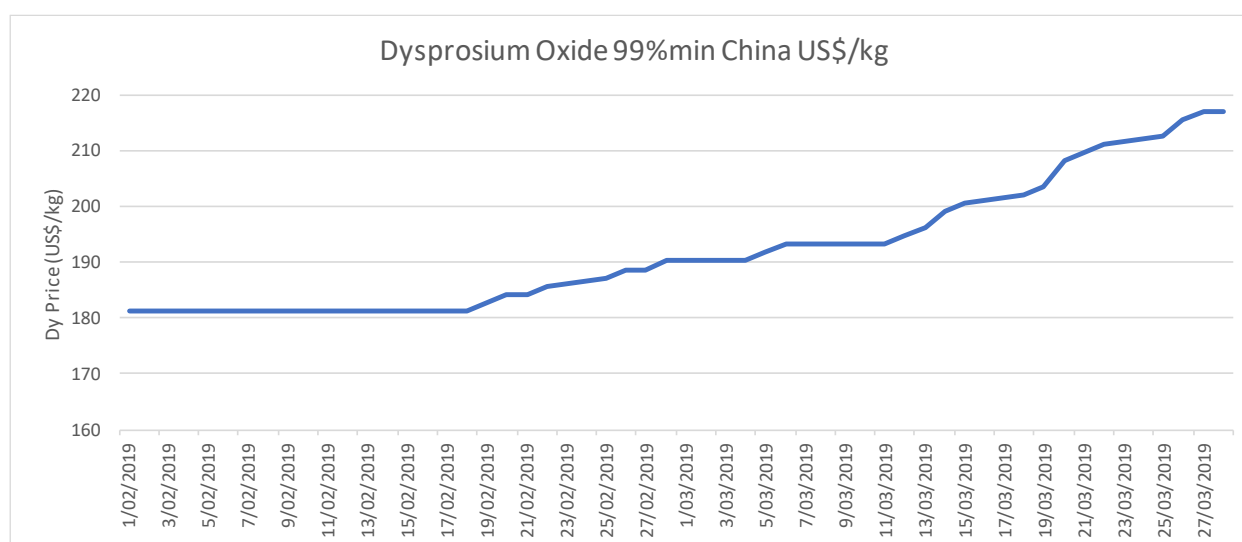
The Dazzler deposit is located less than 15km from the Browns Range Pilot Plant on the edge of a small scarp slope. The prospect was first drilled in 2013 that only intersected patchy mineralisation within the Browns Range Metamorphics.

In 2018, an alternate geological hypothesis led Northern Minerals to drill the geochemical anomaly from the top of the escarpment. This intersected extremely encouraging mineralisation within the Gardiner Sandstone (which had previously been considered non-prospective).

The Dazzler Mineral Resource is based on limited drilling and the Company is exploring the potential for resource additions at Dazzler, the Iceman prospect and other targets within the Gardiner Sandstone.

## Positive signs for the dysprosium price

During the quarter, the Company reported positive moves in the dysprosium price, with the reported price per kilogram increasing by circa 20% in this period.



Source: Asian Metals

There was also a positive sign from slight upward moves in the price of terbium over the same period, however not to the same extent as dysprosium.



## Corporate and Financial

### Placement

In February, the Company announced it had entered into multiple subscription agreements with sophisticated investors, for the placement of 400,000,000 fully paid ordinary shares in the Company at an issue price of A\$0.05 per share to raise A\$20 million (before costs).

Tranche 1 of the subscription agreement, that related to the issue of 200,000,000 shares to raise A\$10 million has been completed.

Subscription funds are to be received by the Company (and shares will be issued) in various tranches as per below:

1. Tranche 2: A\$5 million on or before 30 April 2019 subject to receiving shareholder approval for the issue of the 100,000,000 shares comprising Tranche 2. Shareholder approval for this issue was obtained at the General Meeting held on 26 April 2019.
2. Tranche 3: A\$5 million on or before 31 May 2019 subject to receiving shareholder approval for the issue of the 100,000,000 shares comprising Tranche 3. Shareholder approval for this issue was obtained at the General Meeting held on 26 April 2019.

Funds raised from the issues of the shares will be used for partial repayment of debt, working capital purposes and exploration.

The Board is contemplating a possible Entitlement Offer on a 1-for-15 basis at a price of A\$0.05 per share as per the ASX announcement of 18 March 2019. An announcement will be made in due course should the Board decide to launch such an offer.

Subsequent to the end of the Quarter, share and convertible note subscription agreements to raise A\$15 million (before costs) were secured as detailed in the ASX announcement of 23 April 2019.

### Share Issues

During the quarter, Northern Minerals announced it had entered into subscription agreements with Liu Xiaohua for the following:

- Placement of 50,000,000 fully paid ordinary shares in the Company at an issue price of A\$0.06 per share to raise A\$3 million (before costs). Please refer to the ASX announcement of 1 February 2019; and
- placement of 60,000,000 fully paid ordinary shares in the Company at an issue price of A\$0.05 per share to raise A\$3 million (before costs). Please refer to the ASX announcement of 4 March 2019.

Northern Minerals received all of the above funds under the two subscription agreements by 12 March 2019.

The funds received from this issue of the shares will be utilised for ongoing working capital purposes.





The Company also issued 30 million ordinary shares to Go & Company Limited pursuant to the consultancy arrangements announced on 1 February 2019 and 4 March 2019. These shares were issued under the Company's authority under ASX Listing Rule 7.1. No funds were raised as a result of these issues.

## R&D refundable tax offset

The Australian Tax Office (ATO) agreed to release 50% (\$10.78 million) of Northern Minerals' claim for retained research and development (R&D) refundable tax offset in relation to the 2017/18 R&D claim. The ATO and AusIndustry continue to review Northern Minerals' claim and the Company is working to ensure the review is completed as soon as possible. Please refer to ASX announcement of 18 February 2019.

## Conferences and Marketing

During the March quarter, the Company presented at the RIU Explorers Conference in Fremantle. Please refer to ASX announcement of 20 February 2019.

## June Quarter Activities

Key news flow expected during the June 2019 quarter includes:

- Continued testing of the R&D activities at the Browns Range Pilot Plant
- Finance Update including ISF Loan for 2018 R&D
- Update on developments with respect to enhancement projects
- Follow up drilling at the Dazzler and Iceman prospects

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## About Northern Minerals

Northern Minerals Limited (ASX: NTU; Northern Minerals or the Company) has completed practical completion of the Browns Range Heavy Rare Earth Pilot Plant Project in northern Western Australia and commenced production of heavy rare earth carbonate.

Through the development of its flagship project, the Browns Range Project (the Project), Northern Minerals aims to build the Western Australian operation into the first 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 and high technology solutions.

The three-year R&D Pilot Plant Project provides the opportunity to gain production experience, surety of supply for the Company's offtake partner and assess the economic and technical feasibility of the larger full-scale development.

For more information: [northernminerals.com.au](http://northernminerals.com.au).

### Compliance Statement

The Mineral Resource estimate referred to in this document in relation to the Dazzler deposit was released in an ASX announcement dated 6 March 2019, and it was completed in accordance with the guidelines of the JORC Code (2012) and is available to view on the company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the mineral resource estimates in the relevant announcement continue to apply and have not materially changed. The Company confirms that the form and content in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

The information in this announcement that relates to the Mineral Resource Estimates of the Wolverine, Gambit West, Area 5, Cyclops, Banshee deposits and Pilot Plant Stockpiles (comprising the Browns Range Project) is extracted from the report entitled "Mineral Resource and Ore Reserve Update – Post Trial Mining Operations at June 30 2018" dated 28 September 2018, and it was completed in accordance with the guidelines of the JORC Code (2012), and is available to view on the company's website ([www.northernminerals.com.au](http://www.northernminerals.com.au)). The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



#### Disclaimer

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This document does not provide investment advice or financial product advice. You should obtain professional advice and carry out your own independent investigations and assessment of the information in this document (including any assumptions) before acting. Information in this document which is attributed to a third-party source has not been checked or verified by Northern Minerals Limited.





## Tenement Report

Project	Location	Tenement ID	State	Status	Holder Application	Interest
Browns Range WA	Browns Range	E80/4479	WA	Granted	Northern Minerals	100%
	Browns Range	E80/4806	WA	Granted	Northern Minerals	100%
	Browns Range	E80/4782	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5040	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5041	WA	Granted	Northern Minerals	100%
	Browns Range	M80/627	WA	Granted	Northern Minerals	100%
	Browns Range	L80/76	WA	Granted	Northern Minerals	100%
	Browns Range	L80/77	WA	Granted	Northern Minerals	100%
	Browns Range	L80/78	WA	Granted	Northern Minerals	100%
	Browns Range	L80/79	WA	Granted	Northern Minerals	100%
	Browns Range	E80/5260	WA	Application	Northern Minerals	100%
	Browns Range	E80/5261	WA	Application	Northern Minerals	100%
Browns Range NT	Browns Range	EL24193	NT	Granted	Northern Star Resources	REE rights only
	Browns Range	EL24174	NT	Granted	Northern Star Resources	REE rights only
	Browns Range	EL24941	NT	Application	Northern Star Resources	REE rights only
	Browns Range	EL26270	NT	Granted	Northern Star Resources	REE rights only

## QUARTERLY ACTIVITIES REPORT

March 2019



	Browns Range	EL26286	NT	Granted	Northern Star Resources	REE rights only
John Galt	John Galt	E80/4298	WA	Granted	Northern Minerals	100%
	John Galt	E80/4779	WA	Granted	Northern Minerals	100%
	John Galt	E80/4967	WA	Granted	Northern Minerals	100%
	John Galt	E80/5070	WA	Granted	Northern Minerals	100%
	John Galt	E80/5230	WA	Application	Northern Minerals	100%
Boulder Ridge	Boulder Ridge	EL29594	NT	Granted	Northern Minerals	100% (excluding gold rights)
	Boulder Ridge	EL24849	NT	Application	Northern Minerals	100% (excluding gold rights)
	Boulder Ridge	EL24935	NT	Application	Northern Minerals	100% (excluding gold rights)
Gardiner-Tanami NT	Boulder Ridge	EL24177	NT	Granted	Northern Star Resources	REE rights only
	Boulder Ridge	EL25171	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL23932	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL25009	NT	Granted	Northern Star Resources	REE rights only
	Ware Range	EL26498	NT	Granted	Northern Star Resources	REE rights only
	Ware Range	EL26541	NT	Granted	Northern Star Resources	REE rights only
	Parguee	EL27367	NT	Granted	Northern Star Resources	REE rights only

## QUARTERLY ACTIVITIES REPORT

March 2019



	Tanami	EL29592	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL29593	NT	Granted	Northern Star Resources	REE rights only
Gardiner-Tanami NT	Tanami	EL29595	NT	Granted	Northern Star Resources	REE rights only
	Ware Range	EL24179	NT	Application	Northern Star Resources	REE rights only
	Ware Range	EL24947	NT	Application	Northern Star Resources	REE rights only
	Ware Range	EL25003	NT	Application	Northern Star Resources	REE rights only
	Ware Range	EL25004	NT	Application	Northern Star Resources	REE rights only
	Tanami	EL25172	NT	Application	Northern Star Resources	REE rights only
	Tanami	EL29619	NT	Application	Northern Star Resources	REE rights only
	Tanami	EL29621	NT	Application	Northern Star Resources	REE rights only
	Tanami	EL26635	NT	Granted	Northern Star Resources	REE rights only
	Boulder Ridge	EL28868	NT	Application	Northern Star Resources	REE rights only
	Boulder Ridge	EL30132	NT	Application	Northern Star Resources	REE rights only
	Boulder Ridge	EL27590	NT	Granted	Northern Star Resources	REE rights only
Rabbit Flats	Rabbit Flats 1	EL25157	NT	Application	Northern Star Resources	REE rights only

## QUARTERLY ACTIVITIES REPORT

March 2019



	Rabbit Flats 2	EL25158	NT	Application	Northern Star Resources	REE rights only
	Rabbit Flats 3	EL25159	NT	Application	Northern Star Resources	REE rights only
Rabbit Flats	Rabbit Flats 4	EL25160	NT	Application	Northern Star Resources	REE rights only
	Rabbit Flats 5	EL23935	NT	Application	Northern Star Resources	REE rights only
Kurundi	Kurundi	EL29616	NT	Granted	Horn Resources	REE rights only



# NORTHERN MINERALS

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George Bauk  
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Adrian Griffin  
Non-executive Director

Yanchung Wang  
Non-executive Director

Ming Lu  
Non-executive Director

Congyang Xue  
Non-executive Director

Bin Cai  
Alternate Director

Management  
Robin Jones  
Chief Operating Officer

Robin Wilson  
Exploration Manager

Mark Tory  
CFO/ Company Secretary

Tony Hadley  
General Manager

Eben Van Rooyen  
Engineering Manager

## About Northern Minerals

Northern Minerals Limited (ASX:NTU; Northern Minerals or the Company) is focused on production from the Browns Range Heavy Rare Earth Pilot Plant Project in northern Western Australia. The Browns Range Project is the first and only meaningful producer of dysprosium outside of China.

Commissioning is progressing on the three-year pilot plant project with first production of heavy rare earth carbonate in October 2018. The pilot plant development will continue with its R&D studies and will provide the opportunity to gain production experience, surety of supply for our offtake partner and assess the economic and technical feasibility of the larger full scale development.

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