

**NORTHERN  
MINERALS**

# **QUARTERLY ACTIVITIES REPORT**

**September  
2020**

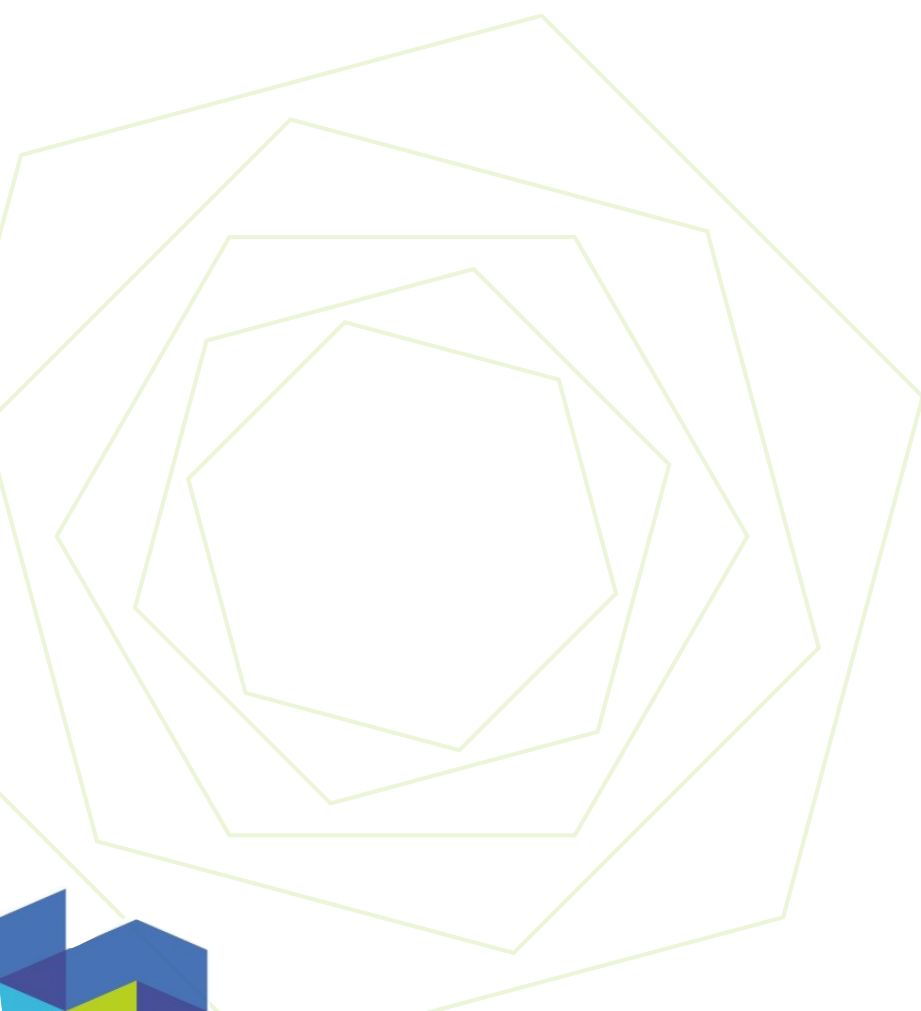


**ASX:NTU**

## HIGHLIGHTS

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- ▶ \$5 million committed to exploration 2020/21 financial year, with more than 16,000 metres of drilling planned;
- ▶ Regulatory approvals received for construction and installation of ore sorting equipment at Browns Range;
- ▶ Balance sheet strengthened with settlement payments totalling \$9.9 million from ATO; and
- ▶ Debt pay-down focus continued in period, reducing the Company's debt position to \$4.1 million.



Northern Minerals Limited [ASX: NTU] (the **Company**) is pleased to update shareholders on its activities for the quarter ending 30 September 2020.

## EXPLORATION PROGRAM

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Northern Minerals announced in September it had allocated a budget of up to \$5 million for an exploration program in the 2020/21 financial year, with drill rigs expected to be on site by the end of October.

The program is focused on increasing the Mineral Resource and the life of mine potential at Browns Range, with approximately 8,000m of reverse circulation (RC) drilling planned before the end of 2020.

Several new drill targets will be tested as well as follow-up holes on significant intersections at prospects including Polaris, Rogue and Banshee South.

Drilling in 2019 at Banshee South returned a broad mineralised intersection of 22m @ 0.52% TREO from 15m in hole BRBR0044.

This drill hole is located outside the defined surface geochemical anomaly at the northwest end of the prospect with no drilling immediately along strike to the west or northwest.

Drilling will also be targeted at the Dazzler area where mineralisation has been outlined in four separate zones over a strike length of approximately 600m.

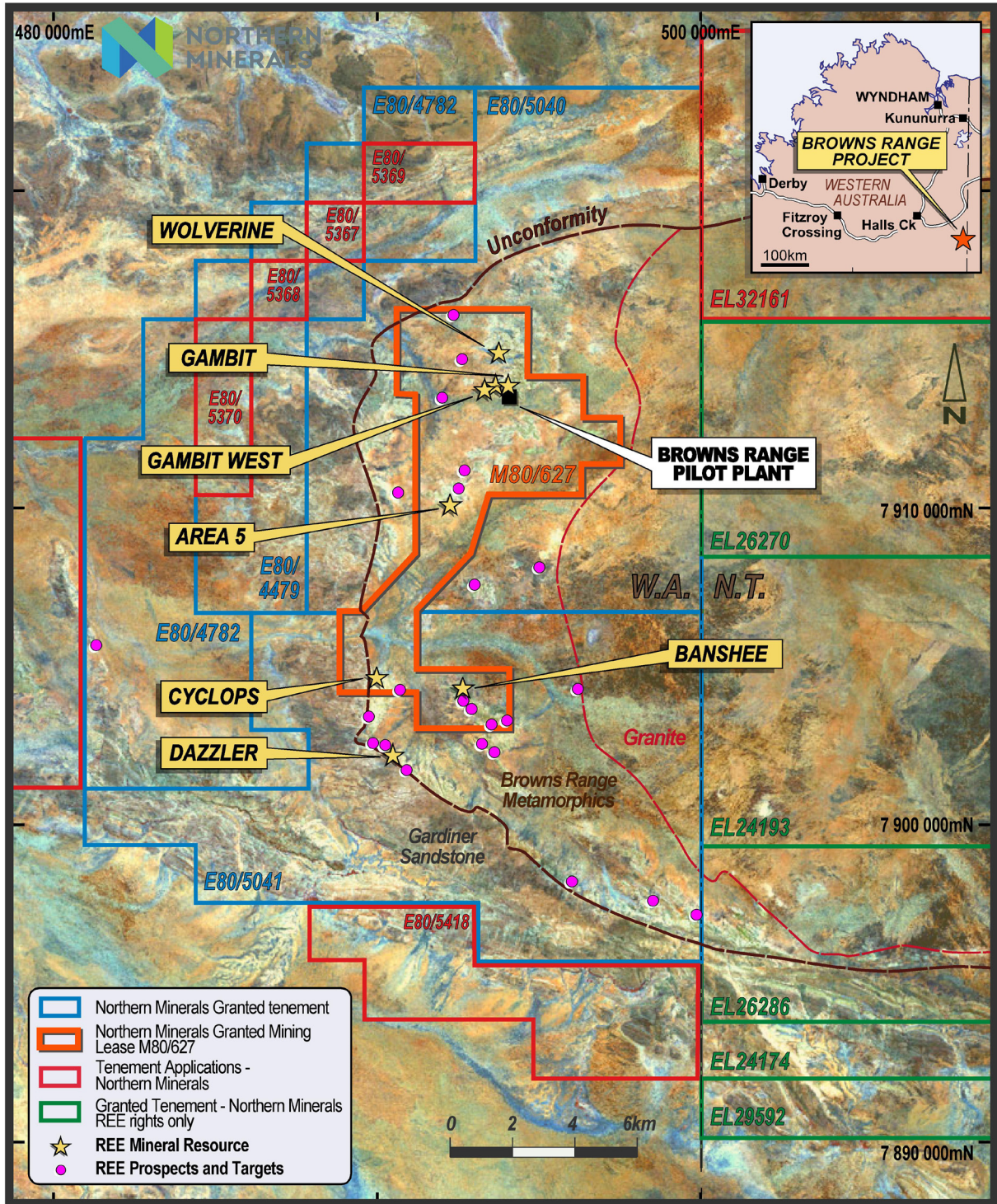
In 2019, drill hole BRDR0093, located 400m northwest of the main Dazzler deposit, intersected 7m @ 0.46% TREO from 39m with no further drilling along strike northwest of this drill hole.

This significant commitment to exploration in the next nine months is designed to underpin the Company's ongoing ambition to realise the potential of Browns Range beyond the Pilot Plant Project.



Reverse Circulation drilling at Dazzler prospect





An exploration program of 16,000 metres is planned for the 2020/21 financial year to test multiple targets across Northern Minerals' Browns Range tenement package.



## PILOT PLANT

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The Research and Development (R&D) testwork recommenced at the Browns Range Pilot Plant in August 2020, with the partial restart of operations following a five-month care and maintenance period due to Commonwealth biosecurity restrictions in response to COVID-19.

Beneficiation testwork on Browns Range ore continued in the period and Northern Minerals plans to restart the hydrometallurgical plant testwork in the December quarter.

This work will contribute to the three-year pilot assessment of the economic and technical feasibility of a commercial, larger scale development at Browns Range.

Northern Minerals gained the regulatory approvals from relevant State authorities for the installation of ore sorting equipment at Browns Range in the period.

The ore sorting equipment concentrates ore prior to the beneficiation circuit by selecting ore and rejecting waste based on x-ray transmission.



**Ore Sorter system installation works have commenced at Browns Range.**

The total capital investment for the procurement, installation and commissioning of the ore sorter is budgeted at \$5.9 million.

Construction has commenced on the structural and mechanical equipment, with commissioning scheduled for mid-2021.

Once the ore sorting system is commissioned, Northern Minerals plans to run additional testwork at pilot plant scale on all ore types to establish baseline data on feed grade improvements.

This work will also help evaluate material flow-through benefits of ore sorting on overall processing efficiencies. This data will also feed into any future commercial, large-scale project feasibility studies at Browns Range.



## PRODUCT SEPARATION

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Northern Minerals also continued to evaluate downstream separation processing options for Browns Range ore during the period.

To date, Browns Range has produced a mixed heavy rare earth carbonate for small-scale export to off-take partners. The next stage in the supply chain is to separate the mixed heavy rare earth carbonate into individual rare earth products.

The Company commenced a scoping study with United States-based K-Technologies, Inc. (K-Tech) in August 2019 which is focused on continuous ion exchange (CIX), continuous ion-chromatography (CIC) and related advanced separation methodologies.

The study continues to progress well, with positive test results being achieved at K-Tech's facilities in Florida, albeit slower than planned because of constraints associated with COVID-19. However, Northern Minerals expects to see separated dysprosium and terbium oxides from the study before the end of this year.

During the quarter, the Company also commenced studies into traditional solvent extraction separation and variants thereof, for separating the mixed heavy rare earth material produced at Browns Range into individual rare earth products.

If we can prove-up the technology and economics of downstream processing our mixed heavy rare earth carbonate to individual oxides or metals it will be an important step in the development of an alternative supply chain for heavy rare earth oxides and it will significantly increase both the value of the product we are producing as well as the number of potential end-customers we can target for off-take agreements.

## CORPORATE ACTIVITY

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### ATO refund payment received

Northern Minerals received a refund payment of \$8.6 million on 14 September 2020 from the Australian Tax Office (ATO). The remaining balance of \$1.3 million was subsequently paid on Thursday 17 September.

This was the net cashflow effect triggered by the settlement agreement between the Company and the ATO, announced on 24 August 2020, relating to refundable R&D tax offset claims for the 2016/17, 2019/18 and 2018/19 financial years.

The settlement agreement also provided a framework for reviewing the Company's refundable R&D tax offset claim for the 2019/20 financial year, which was lodged with the ATO on 2 October 2020.

As part of the settlement process, Northern Minerals adopted recommendations from the ATO for improving its internal policies and procedures with the aim of streamlining future R&D claims.

The Company's refundable R&D tax offset claim for the 2019/20 financial year was for \$8.7 million of eligible R&D work.



## Debt pay-down

With its strengthened balance sheet position post refund payments from the ATO, the Company moved to immediately reduce debt with the early repayment of \$2 million to JHY Investments Pty Ltd (JHY).

The Company entered into a \$4 million Convertible Note subscription and option agreement with JHY in December 2018.

Northern Minerals indicative debt position as at 30 September 2020 (excluding any accrued but unpaid interest), totalled \$4.1 million..

## A\$22 million placement

Northern Minerals issued the final remaining 328,500,000 fully paid ordinary shares under the A\$22 million placement (Placement).

The Company initially announced on 20 April 2020 it had entered into subscription agreements with various sophisticated investors to raise funds under a private Placement.

The 328,500,000 shares issued relate to subscription funds received by the Company totalling A\$6.6 million in respect of the balance of the remaining tranches of the Placement.

Shareholder approval for the issue of shares under the Placement was obtained at the Company's general meeting held on 18 June 2020.

## Lind Funding Agreement

The Company issued 50,000,000 fully paid ordinary shares to a nominee of Lind Global Macro Fund, LP as a result of the conversion into shares of \$800,000 of the face value of the replacement convertible security [refer NTU announcement [22 June 2020](#)] in July. The Company also issued a further 66,666,667 fully paid ordinary shares in August as a result of \$1,200,000 of the face value of the replacement convertible security being converted into shares.

Following this conversion there were no amounts outstanding under the replacement convertible security (which has now been redeemed in full).

Pursuant to the terms of the Funding Agreement with Lind announced on 2 March 2020, under which the replacement convertible security was issued, Lind has also elected to reduce the Collateral Shareholding Number (of fully paid ordinary shares) from 60,000,000 shares to zero, by paying the Company \$1,080,000 in cash.

The Collateral Shareholding Number would have otherwise been available to be applied towards satisfying the Northern Minerals conversion or repayment obligations under the Funding Agreement.

## CEO appointment

Mark Tory was appointed as Northern Minerals' Chief Executive Officer on 29 July 2020. Mr Tory also remains in the role of Company Secretary.

### For further information:

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## ABOUT NORTHERN MINERALS

Northern Minerals Limited is one of a few producers of the 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 temporarily technical feasibility of a larger scale development at Browns Range. In March 2020, the operation was placed into care and maintenance as a result of COVID-19 and has partially restarted operations in August 2020.

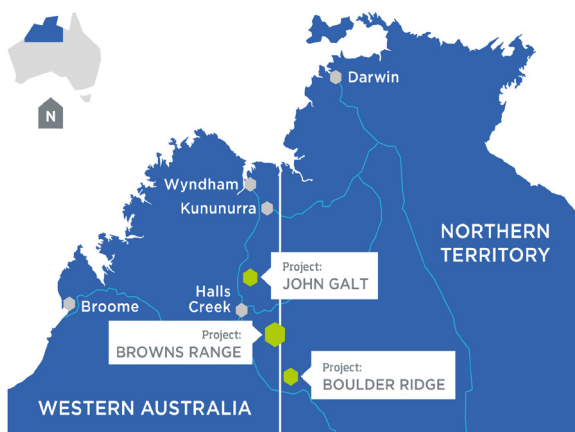
The work program provides the opportunity to gain production experience and surety of supply for our offtake partner, thyssenkrupp, as well as allowing the assessment of various project enhancement initiatives including ore sorting and the separation of the product into individual rare earth oxides.

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](http://northernminerals.com.au)



**ASX Code: NTU**

**Market Capitalisation: A\$150.7m**

**Issued Shares: 4,431m**

**Cash (as at 30 September 2020): A\$12.5m**





## 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	E80/4782	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	E80/5367	WA	Application	Northern Minerals	100%
	Browns Range	E80/5368	WA	Application	Northern Minerals	100%
	Browns Range	E80/5369	WA	Application	Northern Minerals	100%
	Browns Range	E80/5370	WA	Application	Northern Minerals	100%
Browns Range	E80/5418	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	EL26270	NT	Granted	Northern Minerals	100%
	Browns Range	EL26286	NT	Granted	Northern Star Resources	REE rights only
	Browns Range	EL32161	NT	Application	Northern Minerals	100%
	Browns Range	EL32162	NT	Application	Northern Minerals	100%
John Galt	John Galt	E80/4298	WA	Granted	Northern Minerals	100%
	John Galt	E80/4967	WA	Granted	Northern Minerals	100%



Project	Location	Tenement ID	State	Status	Holder Application	Interest
John Galt	John Galt	E80/5070	WA	Granted	Northern Minerals	100%
	John Galt	E80/5230	WA	Granted	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
	Pargee	EL27367	NT	Granted	Northern Minerals	100%
	Tanami	EL29592	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL29593	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL29595	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL29619	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 Minerals	100%
	Boulder Ridge	EL27590	NT	Granted	Northern Star Resources	REE rights only
	Tanami	EL32163	NT	Application	Northern Star Resources	REE rights only
Tanami	EL32164	NT	Application	Northern Star Resources	REE rights only	
Rabbit Flats	Rabbit Flats	EL25159	NT	Application	Northern Star Resources	REE rights only
	Rabbit Flats	EL25160	NT	Application	Northern Star Resources	REE rights only

