



NORTHERN MINERALS

Powering Technology.



Quarterly Activities Report

SEPTEMBER 2017

The focus this quarter has been on equipment supply and fabrication, mining and siteworks for the \$56 million Browns Range pilot plant project in the East Kimberley, WA.

UNDERWAY



Northern Minerals Limited (ASX: NTU; Northern Minerals or the Company) is developing 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 aims to be the first significant world producer of dysprosium outside of China.

The three-year pilot plant project will commence first production of heavy rare earth carbonate in H1 2018. The pilot plant development will continue with its R&D development 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.

Corporate Overview



Highlights:

- ◆ WA Premier, the Hon. Mark McGowan, MP, officially turned the first sod at Browns Range signifying the start of construction.
- ◆ Sinosteel Equipment & Engineering Co., Ltd (Sinosteel MECC) is constructing the modular process components and equipment, with first components shipped from China post the end of the quarter.
- ◆ ASX-listed MACA Limited, the Browns Range mining and bulk earthworks contractor, commenced mining and site clearing, with 52% of ore mined at the end of the quarter.
- ◆ As part of a consortium led by the Wunan Foundation, the Company announced that \$4.8 million had been awarded by the Federal Government for a Training-to-Work program under the Building Better Regions Fund.
- ◆ The Company executed a secured two and a half year \$38 million R&D Loan Facility with New York based financier, Innovation Structured Finance Co., LLC, a company associated with Brevet Capital Management, providing the Company with accelerated access to tax offsets that are applicable to Research & Development (R&D) activities being undertaken at the Browns Range Pilot Plant Project.
- ◆ The Company received an R&D rebate of \$2.67 million for the year ended 30 June 2017.

Browns Range Project Update

Northern Minerals has continued with equipment supply and fabrication, mining and bulk earthworks at the Pilot Plant Project for its 100% owned, dysprosium-rich Browns Range heavy rare earth project, located 160km south east of Halls Creek in the Tanami region of Western Australia.

The Company is set to become the first significant dysprosium producer outside of China through the development of the high-grade Browns Range Project. This will place Northern Minerals in a unique position to capitalise on the growing demand for the rare earth elements used in the production of rare earth permanent magnets used in the motors for the burgeoning electric vehicles sector, where industry commentators now agree demand has reached an inflection point.



Browns Range – Site Activities

During the September quarter, site activities were significantly ramped up with ASX-listed MACA Limited commencing mining and bulk earthworks.

In July, the Western Australian Premier, the Hon Mark McGowan, turned a ceremonial sod on site to celebrate the start of preparation works for the construction of its Browns Range Pilot Plant project. Also at Browns Range to mark the occasion were the Member for Kimberley Josie Farrer, representatives from the Halls Creek Shire and members of the local Jaru community as well as representatives from the media.

Mining of the Gambit West and Wolverine starter pits is well underway, with ore mining approximately 52% complete at the end of the quarter. The mining project is on track for ~180,000t of xenotime ore to be stockpiled on the ROM pad before the end of the year. Ore will be drawn down from the ROM pad over the three-year Pilot Plant Project.



WA Premier Mark McGowan at the sod turning ceremony in

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The bulk earthworks scope of the MACA contract involved construction of the process plant area pad and event ponds, construction of the ROM pad, tailings storage facility, airstrip, evaporation pond and road infrastructure around the site. This work was completed in early October and MACA Civil has demobilised from site.



ROM Pad and process plant area pad

WA-based Primero Group Limited, appointed for the site installation component of the project, mobilised to site in early October. The scope of work for Primero includes the concrete, equipment installation, testing and commissioning of the Browns Range Pilot Plant Project. The first modular components of the processing plant are due on site in early November.



First plane landing at new airstrip

Fabrication Update

Sinosteel MECC, the EPC contractor responsible for the Browns Range Pilot Plant Project, commenced fabrication of the process plant modules and equipment components for the project during the quarter. All the module and equipment components are being fabricated in the Republic of China before being shipped to Australia for installation.

Significant progress was made during the quarter, with a number of modules and components completed and packaged for shipping. The first modules and components left Shanghai in October and are due for receipt in Darwin in early November.



Kiln



Pressure filters



Concentrate thickener being painted



Hydromet skid bases



Flash driers



Wet high gradient magnetic separators



Polishing filter and IX



Waste gas scrubbers

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Project timetable

Works for the Browns Range Pilot Plant Project are on schedule. The mining and construction period for the pilot project is 11 months, with first mixed rare earth carbonate production scheduled for mid-2018.

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Final Investment Decision	✓														
Mining & Bulk Earthworks			✓	✓	✓	✓									
Design & Fabrication		✓	✓	✓	✓	✓									
Installation							✓								
R&D Testing															

Building Better Regions Fund – Wunan Partnership

As part of a consortium led by the Wunan Foundation (Wunan), the Company has been awarded \$4.8 million under the Federal Government's Building Better Regions Fund (BBRF) to develop an Aboriginal training-to-work (T2W) program at the Browns Range Heavy Rare Earth Pilot Plant Project, in the East Kimberley.

The \$4.8 million funding will contribute towards the total T2W project cost of \$8.1 million, which includes the establishment of economic infrastructure at Browns Range.

In partnership with Northern Minerals, Wunan will develop and implement the new T2W program at the Browns Range Pilot Plant Project. The T2W program presents a significant opportunity for Wunan to build on its capabilities and create pathways for Aboriginal communities to achieve tangible outcomes, and improved life choices in the East Kimberley. It will also be essential to Northern Minerals achieving its aspirational, long-term Aboriginal employment target of 20 per cent.



Corporate and Financial

R&D Loan Facility executed

During the quarter, the Company announced that it had executed a \$38 million secured R&D Loan Facility (the Facility) with New York based financier, Innovation Structured Finance Co., LLC (ISF), a company associated with Brevet Capital Management (Brevet).

The Facility provides the Company with accelerated access to tax offsets that are applicable to Research & Development (R&D) activities being undertaken at the Browns Range Pilot Plant Project.

Under the Facility, the Company will work with its R&D advisor, Deloitte, to estimate the level of tax offsets at the end of each quarter. ISF will then provide funding equal to 80% of the estimated tax offset, with the principal and accrued interest repayable out of actual tax offsets received at the end of the financial year.

The Facility has a term of 3 years, aligning with the timeline for the Browns Range Pilot Plant Project.

\$2.67 million R&D rebate received

During the quarter, the Company received its research and development (R&D) rebate for work completed to advance the Browns Range Project (the Project or Browns Range) during the 2016/17 financial year.

The rebate was for a sum totaling \$2.67 million, with these funds to be used by the Company towards the construction costs of the Browns Range Pilot Plant Project.

Private Placement

In September, the Company placed 25 million Ordinary shares with an Australian-based sophisticated investor at 12 cents per share, raising \$3 million. The Placement was being made under existing authorities and did not require shareholder approval.

The funds will be utilised towards the development of the Browns Range Pilot Plant Project.

The Placement partially replaces a shortfall in a placement by AMC Securities, which was unable to be completed due to issues transferring funds out of China.





December Quarter Activities

Key news flow expected during the December quarter includes:

- Completion of mining activities and demobilisation of mining contractor from site
- Commencement of concrete work associated with installation
- Arrival of first modular components on site for installation
- Commencement of installation of modules and equipment components
- Advancement of fabrication of Pilot Plant modules and equipment components in China

– ENDS –

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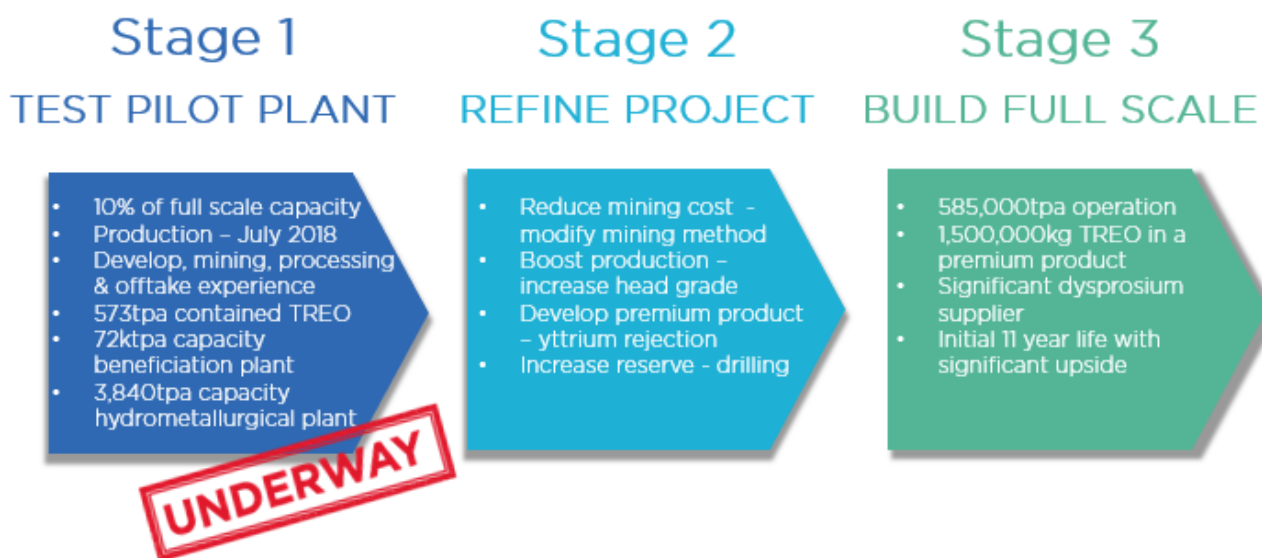
About Browns Range

The Browns Range Project is internationally considered a best in class, shovel ready deposit with well understood mineralogy. Northern Minerals plans to develop the Browns Range Project in three stages. Stage one will be the development of a Pilot Plant operation; Stage Two the development of the project to bankable feasibility study level; and Stage Three the building of the project to full scale production.

The pilot plant, at a scale of 10%, has a designed front end of 60,000 tonnes per annum beneficiation circuit and a 3,200 tonnes per annum hydrometallurgical plant aimed at producing 570 tonnes per annum of TREO in a mixed rare earths carbonate, including 49 tonnes per annum of dysprosium.

The pilot plant is scheduled to operate for three years, in which time a decision to commit to the full-scale operation will be taken based on economic and technical feasibility, which if approved would take an additional two years to construct.

Three stage approach to full scale production



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Project	Location	Tenement ID	State	Change of Status in Quarter	Status	Holder Application	Interest
Browns Range WA	Browns Range	E80/4479	WA		Granted	Northern Minerals	100%
	Browns Range	E80/4725	WA		Granted	Northern Minerals	100%
	Browns Range	E80/4726	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 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
	Browns Range	EL26286	NT		Granted	Northern Star Resources	REE rights only
John Galt	John Galt	E80/4298	WA		Granted	Northern Minerals	100%
	John Galt	E80/4671	WA		Granted	Northern Minerals	100%
	John Galt	E80/4779	WA		Granted	Northern Minerals	100%
	John Galt	E80/5070	WA		Application	Northern Minerals	100%
	Boulder Ridge	EL24177	NT		Granted	Northern Star Resources	REE rights only

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Boulder Ridge	Boulder Ridge	EL25171	NT		Granted	Northern Star Resources	REE rights only
	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)
	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
Gardiner-Tanami NT	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 Star Resources	REE rights only
	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	EL23933	NT		Application	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

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	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
Rabbit Flats	Rabbit Flats 1	EL25157	NT		Application	Northern Star Resources	REE rights only
	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 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



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Nan Yang
Non-executive Director
Bin Cai
Alternate Director

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Robin Jones
Chief Operating Officer

Robin Wilson
Exploration Manager

Mark Tory
Chief Financial Officer/
Company Secretary

Chris Lee
Resident Manager

Eben Van Rooyen
Project Manager

About Northern Minerals

Northern Minerals Limited (ASX: NTU; Northern Minerals or the Company) is focussed on the development of the Browns Range Heavy Rare Earth Pilot Plant Project in northern Western Australia. The Browns Range Project has the potential to be the first significant world producer of dysprosium outside of China.

Work has commenced on a three-year pilot plant project with first production of heavy rare earth carbonate expected in H1 2018. The pilot plant development will continue with its R&D development 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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