NORTHERN MINERALS

Powering Technology.

Quarterly Activities Report

SEPTEMBER 2015

Following the completion of the DFS, the focus has been on finalising the $49.5 million funding partnership with Jien Mining, securing product offtake and financing, and progressing project approvals.

Current Projects

Northern Minerals (ASX: NTU) is focussed on the delivery of the heavy rare earth element, dysprosium. NTU has a large landholding in WA and the NT that is highly prospective for this element.

Through the development of the Browns Range Project, NTU aims to be the first significant world producer of dysprosium outside of China. Dysprosium is an essential ingredient in powering clean energy technology applications such as hybrid cars and wind turbines. A key feature of the Project is its xenotime mineralisation which facilitates a relatively simple and cost effective processing flowsheet to produce a dysprosium rich mixed RE carbonate. Construction is anticipated to commence at Browns Range 2016, with commissioning in 2017.

Corporate Overview

HIGHLIGHTS

FINANCE

- Jien Mining completes successful due diligence.
- Australian Government's Foreign Investment Review Board advises no objection to Jien Mining's investment.
- ASX grants extension to issue options to Jien Mining.
- $5.0 million 2014/2015 research and development rebate received.

PROJECT DEVELOPMENT

- Five key subordinate approvals received from three State Government departments including the Department of Mines and Petroleum, Department of Environmental Regulation and Department of Water.
- Definitive Feasibility Study optimisation studies to reduce mining costs, increase ore head grade and remove yttrium are progressing.

SALES AND MARKETING

- Expanded Browns Range Project product mix.
- Opportunity for additional project revenue from sale of lutetium.
- Offtake Memorandum of Understanding executed with Jien Mining.

FINANCE

Progression of the $49.5 million funding partnership with Jien Mining and receipt of a $5.0 million research and development rebate were highlights for finance during this quarter.

Northern Minerals continues to work with Jien Mining Pty Ltd (Jien Mining) to finalise the $49.5 million funding partnership. An achievement this quarter was Jien Mining confirming that they were satisfied with its due diligence on Northern Minerals, and subject to the outstanding conditions being satisfied, Jien Mining intends to proceed with the transaction.

A number of the outstanding conditions were finalised over the reporting period with advice received from the Australian Government's Foreign Investment Review Board that it had no objections to Jien Mining's investment in Northern Minerals and the execution of a Memorandum of Understanding for project offtake. Following the completion of these two conditions, two final outstanding conditions remain, these being final regulatory approval from the People's Republic of China and Jien Mining Board approval.

Timing of the finalisation of these outstanding conditions has resulted in Northern Minerals being granted a waiver by ASX Limited from Listing Rule 14.7 to allow it to issue, no later than 30 November 2015, 110,000,000 options (Options) to Jien Mining.

During the quarter Northern Minerals received its 2014/15 financial year research and development rebate from the Federal Government, totalling $5.0 million. Once again this is an outstanding rebate that clearly highlights the large amount of work undertaken during the year in advancing the Browns Range Project (the Project) from Pre-feasibility Study to Definitive Feasibility Study (DFS). This scheme is extremely useful for companies in the early stages of development such as Northern Minerals, as the funds allow work programs to be expanded, without having to access capital raising mechanisms.

On receipt of these funds the $3.2 million drawdown facility from Macquarie Bank Limited, announced in February, was retired.

BROWNS RANGE PROJECT

Significant progress was made in relation to subordinate approvals with five key State Government approvals being granted during the quarter.

APPROVALS

During the quarter Northern Minerals received five key subordinate Government approvals from the Department of Mines and Petroleum (DMP), Department of Environment Regulation (DER) and Department of Water (DoW).

DMP's approval of the Project Management Plan (PMP) forms a large part of the overall approval process towards the commencement of mining operations. Before any mining operation commences in Western Australia a PMP must be submitted for assessment to the State Mining Engineer and approved. The PMP is used to identify potential major safety risks for the proposed operations, and acts as a starting point for the development of safety management strategies and commitments to address safety risks.

DoW has granted three approvals in relation to the Project's water supply for construction and also for upgrade works to the local access roads to the Project. These approvals allow Northern Minerals to extract the water required for the Project's construction from existing bores as well as drill and construct new bores on the surrounding pastoral leases to facilitate the upgrade works to the local Duncan and Gordon Downs roads. In addition to, undertake the appropriate modifications of the Sturt Creek floodway, on the Gordon Downs road, to improve the Project's road access route during the wet season.

Lastly, Northern Minerals received a works approval from DER to construct the sewage treatment facility and landfill at the Project.

These five approvals continue to de-risk the Project from an approvals perspective and keep Northern Minerals on track to have all approvals granted well in advance of commencement on construction.

DFS OPTIMISATION WORK

Northern Minerals commenced work on a number of initiatives to optimise the Project's DFS. In particular, work commenced on three key initiatives, these are; reducing mining costs, reducing solvent extraction separation (SX) costs through removal of yttrium and increasing ore head grade. Future optimisation work is dependent on funding.

Modification of mining method

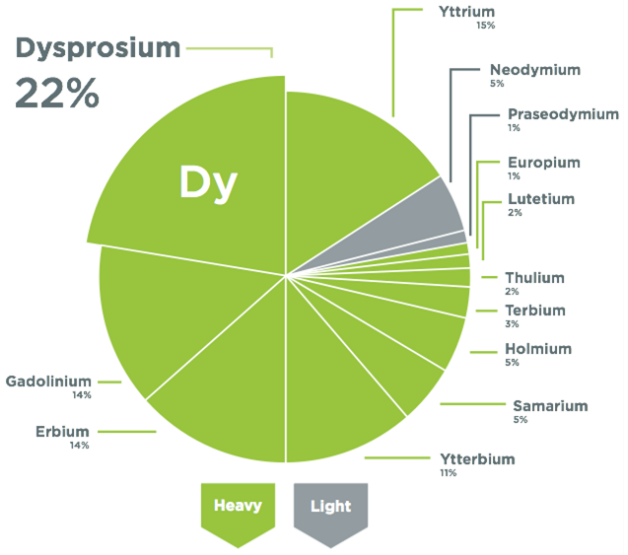
Studies are underway to improve productivity and reduce forecast underground mining costs at the proposed Wolverine underground mine, which indicate a reduction of up to 40% in DFS underground mining costs. Northern Minerals will confirm on completion of these studies that the proposed modifications to the mine design, to eliminate the use of paste fill by using sub level caving mining, is achievable.

In addition to reviewing the mine design, work is underway to further optimise the mining schedule through scheduling of the Wolverine underground from the base of the Wolverine pit, re-evaluating the thickness and extraction of the Wolverine crown pillar and changing of the production sequence and layout.

Yttrium rejection

Northern Minerals sees significant opportunity in reducing downstream SX costs, by separating yttrium in the hydrometallurgical process. Removing approximately 90% of the yttrium, which represents 62% of the total TREO distribution, results in less mixed rare earth carbonate (REC) being produced. Less REC material required to be processed through the downstream SX separation process, will result in a reduction in SX costs to deliver separated rare earth oxides to market.

Figure 1: Distribution of mixed rare earth carbonate following yttrium removal



Initial testwork completed at ANSTO Minerals has indicated that removal of yttrium, lanthanum and cerium can be achieved through an additional process step prior to REC precipitation in the hydrometallurgical facility. Following these promising results, Northern Minerals commenced bench scale testwork to further test this concept. The bench scale testwork was successful in developing the flowsheet for yttrium, lanthanum and cerium rejection which now allows for the yttrium rejection scoping study to commence and the flowsheet to be progressed to pilot plant testing.

With current market intelligence indicating that the sale of the yttrium oxide is likely to be limited for the foreseeable future, the yttrium removal step will increase the percentage of the dysprosium in the mixed rare earth carbonate product from 9% Dy/TREO to 22% Dy/TREO (see Figure 1 above) while still retaining a portion of yttrium for sale to potential customers.

Increase in ore head grade

The potential to increase the TREO production rate by targeting higher grade ore in the earlier stages of mining and processing is currently being assessed. This involves increasing the DFS mill head grade from 0.66% to 0.80% TREO by scheduling the current life of mine mill feed plan in a more favourable sequence. While this is expected to result in a 20% increase in TREO production per annum, it will reduce the current DFS mine life from eleven years to between seven to eight years.

Exploration planning is well advanced to increase the Project's mineral inventory and classification level to extend high grade ore supplies to feed the operation and extend the mine life.

HERITAGE SURVEY

During the second week of August, Northern Minerals and a number of the Jaru Traditional Owners participated in an ethnographic heritage assessment of the Project and surrounding areas. The survey was conducted over five days and involved the Jaru Traditional Owners inspecting areas likely to be impacted by the Project's construction and future exploration activities to ensure no culturally significant areas will be impacted by the Project.

The project areas included the accommodation village and airstrip, processing facility, mine pits, access roads, water bores, communications towers, and exploration areas for soil sampling, mapping and drilling.

Heritage survey Browns Range Project, August 2015

SALES AND MARKETING

With an expanded product mix and market intelligence continuing to confirm that the need for dysprosium remains, Northern Minerals remains confident in the future market fundamentals that will drive demand for the Project's product.

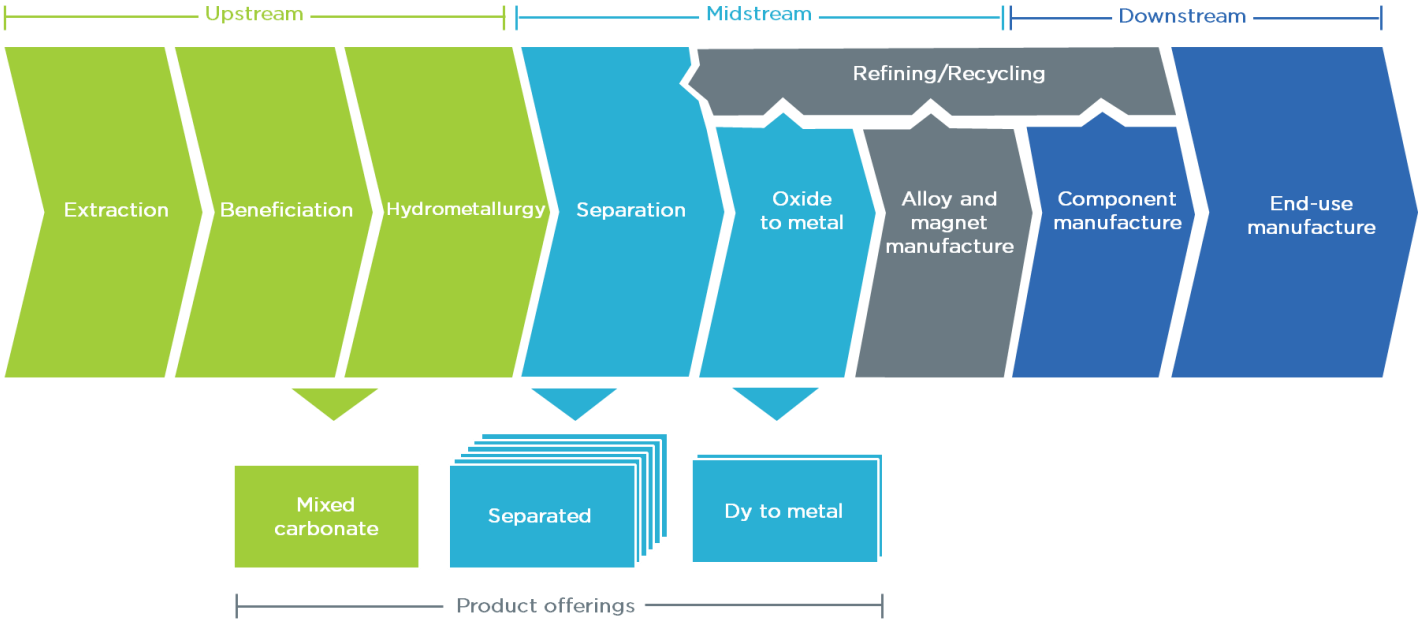
The marketing team has undertaken a number of activities during the quarter including visits to potential customers, rare earth end users and potential toll separators and metal makers, marketing workshops with specialised market and industry experts, and appointment of an industry expert to assist in guiding the sales and marketing strategy. This work has enabled Northern Minerals to expand the Project's marketing strategy to offer a range of specialised, heavy rare earth products and also identified an opportunity for increased revenue through the sale of lutetium.

In September, Northern Minerals attended the 2015 Argus Rare Earths Conference in Shanghai. Northern Minerals' representatives met with a number of industry experts and participants, in addition to several introductory and follow up meetings with potential offtake and toll separation partners.

EXPANDED PRODUCT MIX

Northern Minerals refined its marketing strategy by expanding the Project's product mix from a mixed rare earth carbonate only, to include individual rare earth oxides and DyFe metal. Figure 2 outlines this approach, with the green segments representing the processes directly under control of Northern Minerals, while the light blue processes will be conducted by separation and metal making partners through toll treating agreements.

Figure 2: Mine to end use supply chain



The refined marketing strategy has enabled Northern Minerals to segment the market based on product needs and target each potential customer with specific requirements. This work, plus visits to potential toll separation and metal making partners, has allowed for the development of cost pricing for each discrete product which will assist Northern Minerals in the negotiation of sales contracts.

DYSPROSIUM STILL IN DEMAND

Engagement with market participants continues to confirm that dysprosium remains an essential ingredient in the manufacturer of neodymium-dysprosium-iron-boron (NdDyFeB) permanent magnets used in high performance applications. This is because of the positive effect dysprosium has on the magnet's coercivity at higher temperatures. It also means that NdDyFeB permanent magnets can be smaller, lighter, quieter and more efficient, which are essential attributes for many of today's clean energy applications such as electric vehicles, hybrid electric vehicles, wind turbines, electric bikes and industrial motors.

While there has been research and development undertaken to find more readily available substitutes for the use of dysprosium and reduce the amount of dysprosium in permanent magnets, Northern Minerals' market research, which includes discussions with major magnet makers and industry experts, indicates that dysprosium remains a key element in the production of NdDyFeB permanent magnets used in high performance applications. It is understood that while substitution and reductions may be possible for some applications, this is limited and has not been proven commercially for many other applications that are reliant on dysprosium to achieve optimal efficiency.

While current dysprosium oxide prices are low, Northern Minerals remains confident in the long term NdDyFeB permanent magnet market fundamentals. Price forecasts indicate that by the time the Project comes online dysprosium prices will be firmer, as global demand for these NdDyFeB permanent magnet applications grows and illegal supply is reduced. A key contributor to this growth is the increasing concern globally about the depletion of natural resources and climate change. This, coupled with the significant economic and environmental savings, has increased investment in the research and development of clean and renewable energy applications. Furthermore, Northern Minerals believes that the increased availability of dysprosium, through new and secure sources of supply such as Browns Range, will also support further technological innovations in these fields.

THE LUTETIUM OPPORTUNITY

With limited global supply of lutetium, market interest in securing supply of this element from the Project has been strong. Lutetium, a heavy rare earth element, was not considered a revenue contributing element in the DFS and this new interest provides a potential opportunity for additional revenue. As per the DFS, the Project is forecast to produce approximately 21,000kg of lutetium per annum.

Why lutetium?

Scintillator crystals doped with lutetium are used in the detectors of medical imaging applications such as positron emission tomography (PET) scanners, in the fields of neurology, oncology and cardiology. These scintillator crystals detect the gamma-rays emitted by a radiotracer and only a few scintillator crystal combinations have been widely used to date.

A recent study has confirmed that a combination of cerium-doped lutetium oxyorthosilicate (LSO) scintillators outperform all previously used combinations. LSO used in PET scanners provides 3D imaging capability and results in shorter scan times which reduces the patient's exposure to radiation with good gamma-ray detection efficiency. While there is significant advantages in using lutetium, limited supply globally has resulted in manufacturers using sub-optimal alternatives.

MEMORANDUM OF UNDERSTANDING (MOU) WITH JIEN MINING

During August, a MOU was executed with Jien Mining in relation to product offtake from the Project. The MOU, which is conditional upon completion of the proposed placement to Jien Mining, is for the purchase of 50% of the Project's mixed rare earth carbonate on terms, including price and product specification, to be finalised in a definitive offtake agreement.

This undertaking includes an exclusivity period over this 50% interest ending at the earliest 30 June 2017. As part of the MOU Northern Minerals and Jien Mining will commence discussions, in good faith, to agree on the joint marketing of their respective shares of product under a commercial structure.

INFORMATION REQUIRED BY LISTING RULE 5.3.3

Project	Location	Tenement ID	State	Status	Holder Application	Interest
Browns Range WA	Browns Range	E80/3548	WA	Granted	Northern Minerals	100%
	Browns Range	E 80/3547	WA	Granted	Northern Minerals	100%
	Browns Range	E80/4393	WA	Granted	Northern Minerals	100%
	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	E80/4883	WA	Granted	Northern Minerals	100%
	Browns Range	E80/4782	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 Minerals	100%
	Browns Range	EL24174	NT	Granted	Northern Minerals	100%
	Browns Range	EL24941	NT	Application	Northern Minerals	100%
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	E80/4967	WA	Application	Northern Minerals	100%
Gardiner-Tanami NT	Tanami	EL23932	NT	Granted	Northern Minerals	100%
	Boulder Ridge	EL24177	NT	Granted	Northern Minerals	100%
	Tanami	EL25009	NT	Granted	Northern Minerals	100%
	Boulder Ridge	EL25171	NT	Granted	Northern Minerals	100%
	Ware Range	EL26498	NT	Granted	Northern Minerals	100%
	Ware Range	EL26541	NT	Granted	Northern Minerals	100%
	Pargee	EL27367	NT	Granted	Northern Minerals	100%
	Tanami	EL29592	NT	Granted	Northern Minerals	100%
	Tanami	EL29593	NT	Granted	Northern Minerals	100%
	Boulder Ridge	EL29594	NT	Granted	Northern Minerals	100%
	Tanami	EL29595	NT	Granted	Northern Minerals	100%
	Tanami	EL23933	NT	Application	Northern Minerals	100%
	Ware Range	EL24179	NT	Application	Northern Minerals	100%
	Boulder Ridge	EL24849	NT	Application	Northern Minerals	100%
	Boulder Ridge	EL24935	NT	Application	Northern Minerals	100%

Project	Location	Tenement ID	State	Status	Holder Application	Interest
	Ware Range	EL24947	NT	Application	Northern Minerals	100%
	Ware Range	EL25003	NT	Application	Northern Minerals	100%
	Ware Range	EL25004	NT	Application	Northern Minerals	100%
	Tanami	EL25172	NT	Application	Northern Minerals	100%
	Boulder Ridge	EL28868	NT	Application	Northern Minerals	100%
	Tanami	EL29619	NT	Application	Northern Minerals	100%
	Tanami	EL29621	NT	Application	Northern Minerals	100%
	Tanami	EL29622	NT	Application	Northern Minerals	100%
	Boulder Ridge	EL30132	NT	Application	Northern Minerals	100%
Browns Range Toro JV	Browns Range	EL26270	NT	Granted	Toro Energy Limited	Earning 50%
	Browns Range	EL26271	NT	Granted	Toro Energy Limited	Earning 50%
	Browns Range	EL26286	NT	Granted	Toro Energy Limited	Earning 50%
	Tanami	EL26635	NT	Granted	Toro Energy Limited	Earning 50%
	Tanami	EL27000	NT	Granted	Toro Energy Limited	Earning 50%
	Tanami	EL27001	NT	Granted	Toro Energy Limited	Earning 50%
	Tanami	EL27590	NT	Granted	Toro Energy Limited	Earning 50%
Kurundi	Kurundi	EL29616	NT	Granted	Northern Minerals	100% REE rights only
Rabbit Flats	Rabbit Flats 1	EL25157	NT	Application	Northern Minerals	100%
	Rabbit Flats 2	EL25158	NT	Application	Northern Minerals	100%
	Rabbit Flats 3	EL25159	NT	Application	Northern Minerals	100%
	Rabbit Flats 4	EL25160	NT	Application	Northern Minerals	100%
	Rabbit Flats 5	EL23935	NT	Application	Northern Minerals	100%
Yarawindah	Yarawindah	E70/3080	WA	Granted	Northern Minerals	80%

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Contact:
George Bauk
Managing Director/CEO

Linda Reddi
Senior Public Affairs Advisor

Northern Minerals
+ 61 8 9481 2344

Ryan McKinlay
Cannings Purple
+61 408 347 282
+61 8 6314 630

Directors:
Conglin Yue
Executive Chairman

Kevin Schultz
Deputy Chairman

George Bauk
Managing Director / CEO

Colin McCavana
Non-executive Director

Adrian Griffin
Non-executive Director

Yanchung Wang
Non-executive Director

Bin Cai
Alternate Director

Management
Robin Wilson
Exploration Manager

Robin Jones
Project Manager

Mark Tory
Chief Financial Officer/
Company Secretary

About Northern Minerals

Northern Minerals Limited (ASX: NTU) is a heavy rare earth (HRE) company focussed on the production of dysprosium and yttrium, elements which are in short supply globally.

With a relatively simple and low cost processing flowsheet, Northern Minerals can produce a high grade mixed rare earth oxide product which is highly sought after in international markets to power clean energy and high end technology applications.

Level 1, 675 Murray Street,
West Perth WA 6005

PO Box 669, West Perth WA 6872

T + 61 8 9481 2344 | 1800 643 228
F + 61 8 9481 5929

northernminerals.com.au