



**NORTHERN
MINERALS**

**BOULDER RIDGE PROJECT
ANNUAL GROUP REPORT GR334-14**

for the period

21st August 2015 to 20th August 2016

Exploration Licenses EL24177, EL25171 and EL29594

OPERATED BY

NORTHERN MINERALS LIMITED

ANNUAL REPORT

GROUP REPORT:	GR 334-14
NAME:	Boulder Ridge Project, Annual Group Report for the period 21 st August 2015 to 20 th August 2016
PREPARED BY:	R.Wilson
DATE:	20 October 2016
NTU Report No:	2016-17
TARGET COMMODITIES:	Heavy Rare Earth Elements (HREE)
NT 1:100,000 SHEET:	4758 "Pargee"
NT 1:250,000 SHEET:	SE5215 "Tanami"

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Declaration

To the best of our knowledge, this document conforms to the format outline for an annual report, as shown by the Northern Territory Geological Survey- Minerals and Energy Division website.

SUMMARY:

- Location:** The tenements are located north of the Tanami Road within the Northern Territory near to the border with Western Australia. The Tanami Mine is approximately 50km ESE from the tenements.
- Geology:** The geology of the tenements is dominated by Meso-Proterozoic aged Pargee Sandstone and Gardiner Sandstone surrounded by Tertiary duricrusts and unconsolidated Quaternary sediments.
- Work Done:** During the reporting period, on-ground work was limited due to financial constraints. Plans for on-ground exploration have been deferred due to the Company's difficult financial position which has been caused by falling rare earth prices and an inability to raise additional funding in a risk averse equities market.
- Results:** Numerous REE targets have been identified within the project area which are still to be ground checked.
- Conclusions:** Future work programs will be focused on extending previous work undertaken at the Boulder Ridge prospect, where historic exploration identified xenotime HREE mineralisation similar to that seen at Northern Mineral's Browns Range project located 100km to the northwest in Western Australia. Previous work has enhanced Northern's understanding of the geochemical signature surrounding the prospect although further work including mapping, sampling and drill testing is still required.

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1. SUMMARY

The Boulder Ridge project consists of three granted Exploration Leases EL24177, EL29594 and EL25171 with group reporting status (GR334-14). The tenements are located north of the Tanami Road near the border between Western Australia and Northern Territory.

During the reporting period, on-ground work was limited due to financial constraints. Plans for on-ground exploration have been deferred due to the Company's difficult financial position which has been caused by falling rare earth prices and an inability to raise additional funding in a risk averse equities market.

Xenotime mineralisation similar to Northern Minerals advanced Browns Range Project in Western Australia has been identified within the project area and the results from previous work, warrant further on-ground work planned for the 2016/17 exploration season.

2. INTRODUCTION

Previous exploration work by Northern Minerals at the Boulder Ridge Project has identified xenotime mineralisation similar in style to the company's advanced Browns Range Project across the border in Western Australia. Northern Minerals is conducting detailed field and desktop studies to determine the controls and the extent of the mineralisation identified to date.

3. LOCATION & ACCESS

The Boulder Ridge Project is located near the border between Western Australian and the Northern Territory, in an area immediately north of the Tanami Road. Halls Creek, the nearest town, is approximately 210km north-west of the project area.

Access to the project area is along the Tanami Road from Halls Creek and then by historic exploration tracks and drill lines. Access to the project area is restricted after heavy rains during the wet season (from December to April).

The tenement is covered by the 1:250,000 map sheet of Tanami (SE 52-15) and the 1:100,000 map sheet of Pargee (4758).

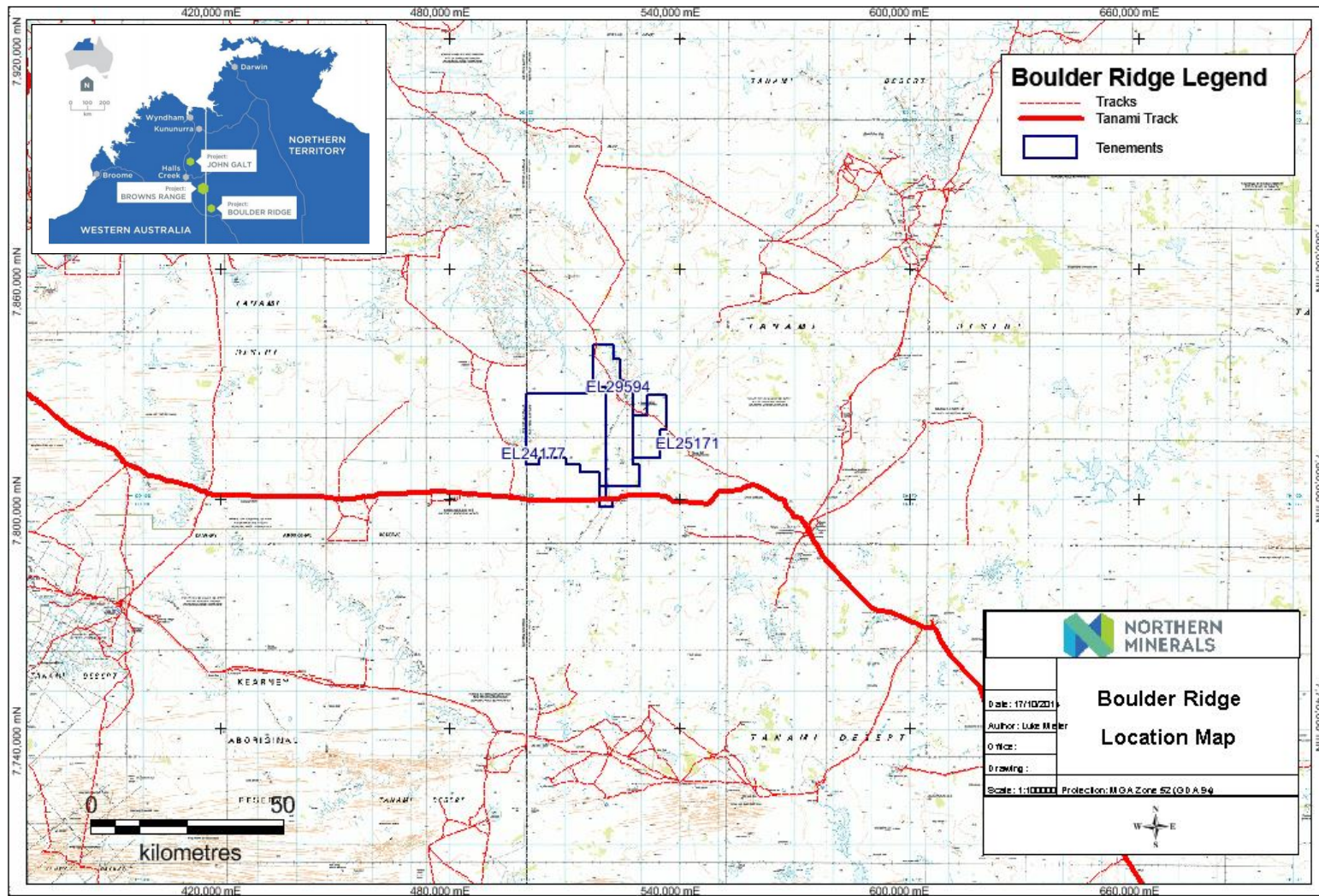


Figure 1 - Boulder Ridge Project Location Map

4. TENURE

Northern Minerals Exploration Leases EL24177, EL29594, EL25171 were granted group reporting status GR334-14 by the NT Department of Mines and Energy (DME) on 15th April 2014. The project area consists of 796.24 square kilometres and all tenements are 100% owned by Northern Minerals.

Table 1: Tenement Summary

Tenement	Status	Grant Date	Expiry Date	Area (km ²)	Holder
EL24177	Granted	21/08/2012	20/08/2018	402	Northern Minerals
EL29594	Granted	21/08/2012	20/08/2018	281.04	Northern Minerals
EL25171	Granted	26/07/2012	25/07/2018	113.2	Northern Minerals

5. REGIONAL GEOLOGY

In the Tanami Region, one of the most important tectonic units in the North Australian Craton, the stratigraphic succession shows similarities with the Pine Creek and Halls Creek Orogens, other Palaeoproterozoic successions in northern Australia.

Within the region, the MacFarlane Peak Group, which is interpreted to be the basal unit of the Palaeoproterozoic sequence, is dominated by volcanic and volcanoclastic rocks, along with clastic and calc-silicate sediments. These are overlain by siltstone, carbonaceous shale, calc silicates and BIF of the Dead Bullock Formation. This in turn is overlain by a thick sequence of turbidites associated with the Killi Killi Formation. Interbedded siltstone, greywacke and chert west of the Tanami mine are included in the Twigg Formation. The latter three units are grouped together in the Tanami Group.

The Pargee Sandstone and the Mount Charles Formation occur in small extensional basins overlying the MacFarlane Peak and Tanami Groups. A period of wider extension follows, accompanied by felsic volcanism in the Mount Winnecke Group and Nanny Goat Volcanics.

Five main granitic suites are recognised in the Tanami Region, the most important being the Coomarie and Frederick Suites. The youngest granites in the area belong to The Granites Suite. Archaean rocks identified from drilling comprise of the Browns Range Metamorphics and the Billabong Complex.

Deposition in the Birrindudu Basin began with sandstone transgressing over the metamorphic and crystalline basement probably at about 1.7 Ga. This was accompanied by regionally extensive north-trending growth faults and volcanism, possibly indicating rifting. The Birrindudu and Tolmer Groups represent the exposed basal section of this basin and may be as much as 6,000m thick locally. Apart from minor felsic volcanic rocks (tentatively assigned to undifferentiated Birrindudu Group) and carbonate rocks and shale in the upper Tolmer Group, these units are dominated by coarse clastic sedimentary rocks.

Unconformably overlying the Birrindudu Basin occur clastic sediments forming the Neoproterozoic Redcliff Pound Group. This includes the Lewis Range Sandstone, a medium to fine grained quartz sandstone with shale pellet layers in places and minor shale, siltstone, limestone and chert with conglomerate and sublithic sandstone near the base.

The Cambrian Antrim Plateau Volcanics consisting predominantly of basalt lavas extend south. They present as mainly low rises capped by laterite and partly bounded by breakaways, but in the north east they form mesas and buttes. The units are generally covered by grey residual clay.

Tertiary laterite, silcrete and calcrete, as well as Quaternary deposits cover a large proportion of the region. Flat topped rises capped by laterite are widespread; they are interpreted as remnants of the Tertiary Tennant Creek erosion surface. Laterite capping forms the upper part of the weathering profile, well exposed in many breakaways and typically consists of a pisolitic layer, one to two meters thick.

Small patches of silcrete are common on quartz rich rocks, but most are very small patches. Calcrete has been mapped in the southern region, where it forms low rises with mounds and solution hollows situated in broad depressions.

Quaternary deposits comprise residual grey clay, forming flat and generally treeless plains in the northwest. Aeolian sand covering extensive plains separating laterite rises and outcrops of pre-Tertiary rocks and piedmont deposits consisting of sand and gravel flanking many of the residual sandstone hills and ridges. Sand and silt deposited mainly by sheet wash occupying barely perceptible drainage depressions. Sand, silt and clay are deposited on the flood plains of major drainage channels and in claypans.

5.1 Local Geology

The surface geology is dominated by low lying outcrops of Pargee and Gardiner Sandstone surrounded by Tertiary duricrusts (calcrete, silcrete and ferricrete) and unconsolidated surficial sediments. The Gardiner Sandstone unconformably overlies Pargee Sandstone in the far north of the tenements near the Pargee Rockholes. Minor, isolated outcrops of Tanami Group lithologies (Killi Killi Beds & Dead Bullock Formation) occur within the project area. The Bluebush Fault passes along the eastern margin of the tenement EL29594.

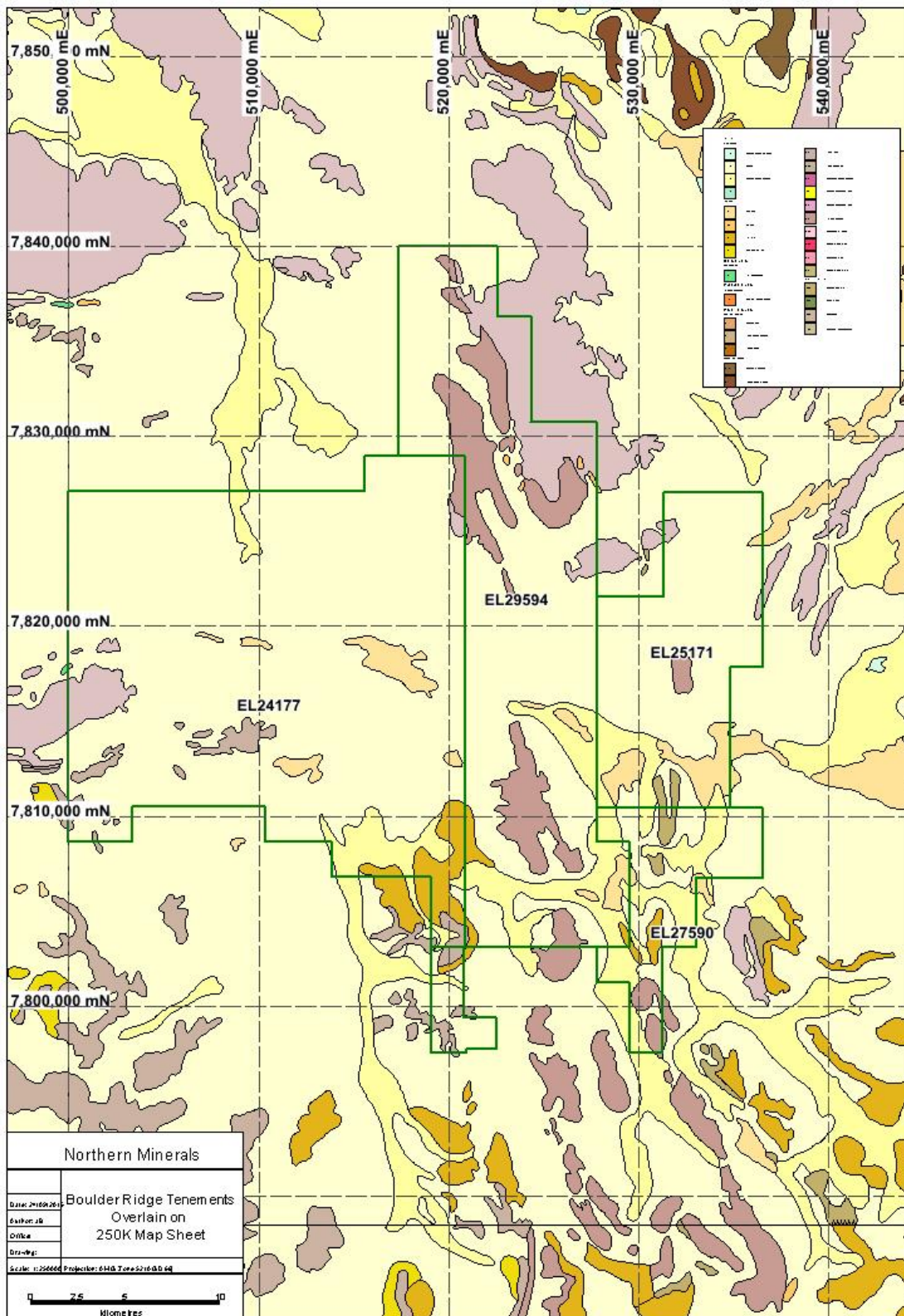


Figure 2 – Boulder Ridge Project - Geology (Tanami 1:250,000 map sheet)

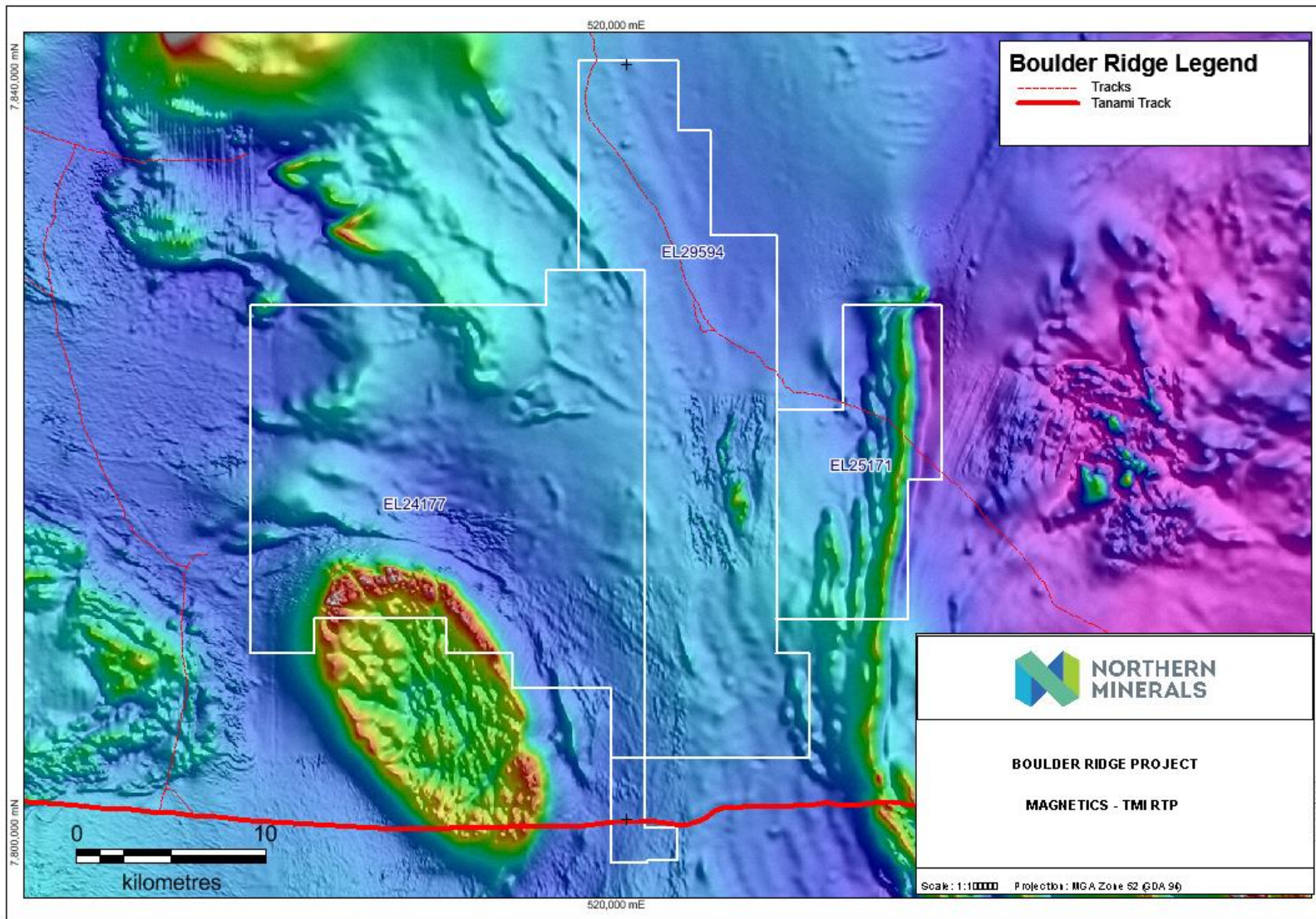


Figure 3 – Boulder Ridge Project - TMI RTP Magnetics

6 EXPLORATION COMPLETED BY NORTHERN MINERALS

Due to financial constraints exploration work has been limited during the current year of the tenements. Plans for on-ground exploration have been deferred due to the Company's difficult financial position which has been caused by falling rare earth prices and an inability to raise additional funding in a risk averse equities market.

In February 2015, Northern Minerals announced the execution of an agreement with Jien Mining, which upon completion would have delivered \$49.5M of funding for the Company's projects. Following a lengthy due diligence process and numerous delays and extensions, in December 2015 the agreement was terminated with Jien Mining after they failed to deliver the next stage of funding. As a result of the failure of Jien Mining to provide the funding, Northern Minerals was forced to reduce staffing levels, salaries and all other non-essential expenditure in early 2016.

Since late 2015, the Company's limited funding has been mostly directed towards its most advanced project, the Browns Range HRE Project, just to the northwest of the tenements that are the subject of this waiver application, in Western Australia.

Restrictions in access as a result of the exclusion zones defined from the heritage survey in 2014 have also caused a delay in work programs. Several of the better targets identified to date are located within or adjacent to these exclusion or restricted access areas. Discussions have not yet been held with the CLC to see whether some of the restricted/exclusion areas can be reduced in area or another means of getting on-ground access to these areas can be determined.

On 2 August Northern Minerals announced to the ASX that it had entered into an agreement with Huatai Mining Pty Ltd for a \$30 million equity funding agreement. On 12 August it was announced that the first \$3 million of the funding agreement had been received by Northern Minerals with the remaining \$27 million to be received in three instalments once the necessary shareholder and government approvals have been received. This funding will enable Northern Minerals to continue to develop its Browns Range Project in WA, as well as to continue its proposed REE exploration programs as described below, in the surrounding Tanami region.

On 30th August Northern Minerals announced to the ASX that it had entered in a tenement sale agreement with Northern Star Resources to sell a package of exploration licences in the Tanami Region, which includes EL24177, EL25171 and EL29594. Under the deal, Northern Minerals will retain the rare earth rights on the tenements EL24177 and EL25171, with Northern Star Resources holding the rights to all other minerals, including gold. For the tenement EL29594, Northern Star Resources will acquire the gold rights only and the remaining mineral rights will remain with Northern Minerals. Completion of the transaction is subject to Ministerial Consent and approval by other third parties.

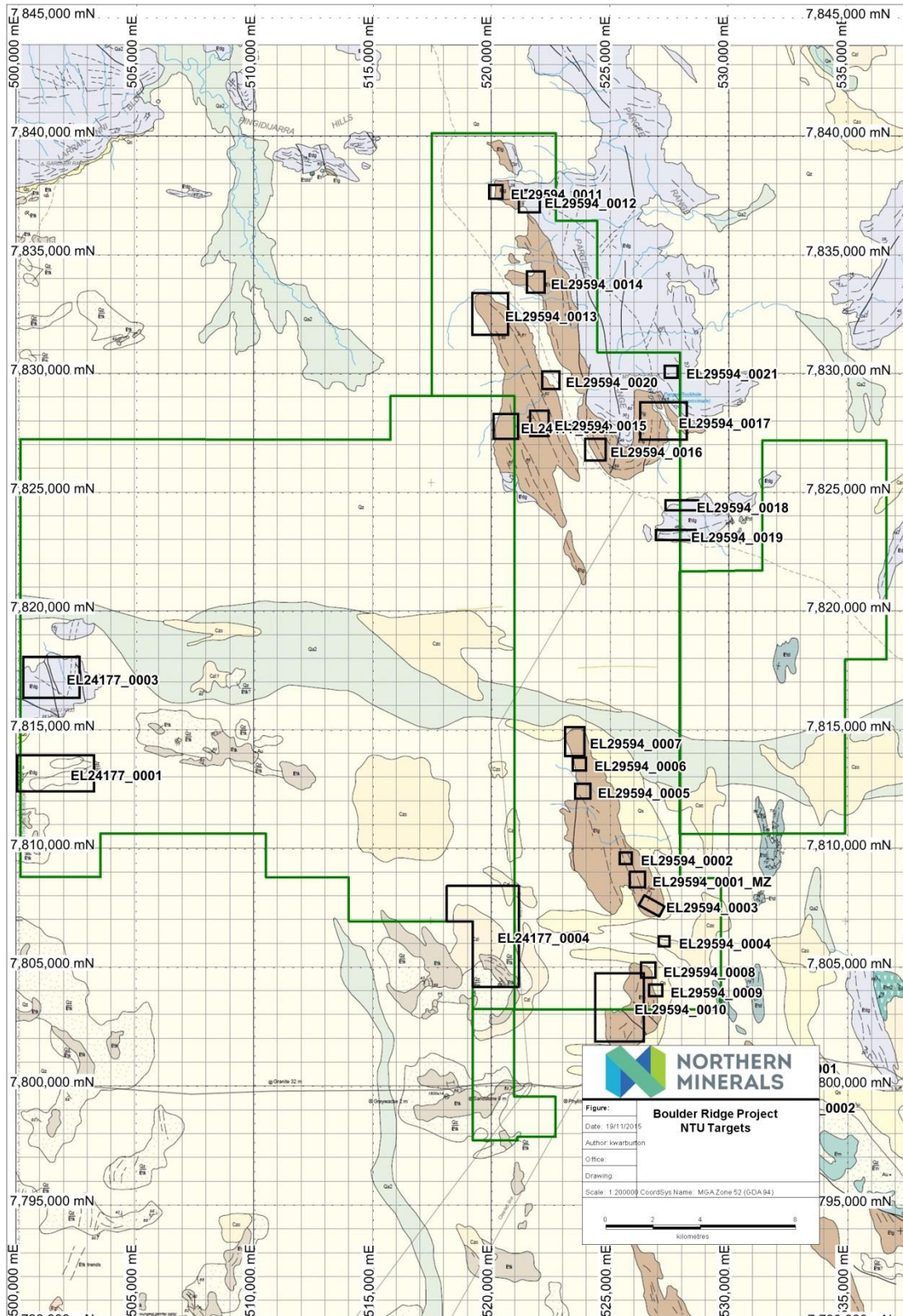


Figure 4 – Northern Minerals REE targets.

7 PROPOSED EXPLORATION

The proposed REE exploration program for the year ending 21 August 2017 is summarised as follows:

EL29594

- Negotiations with CLC and Traditional Owners regarding obtaining approval to enter restricted work areas.
- Helicopter/ground supported reconnaissance of identified target areas, including geological mapping, rock chip sampling, and geochemical surveys.
- Track maintenance to improve vehicle access to target areas and for drilling rig access
- First-pass RAB/RC drill testing of Boulder Ridge REE prospect and any other additionally identified drill targets

EL24177

- Helicopter and/or ground supported reconnaissance of identified target areas, including geological mapping, rock chip sampling, and geochemical surveys.
- Track maintenance to improve vehicle access to target areas

EL25171

- Helicopter and/or ground supported reconnaissance of identified target areas, including geological mapping, rock chip sampling, and geochemical surveys.
- Track maintenance to improve vehicle access to target areas

8 CONCLUSIONS & RECOMMENDATIONS

Previous work completed at the Boulder Ridge project has defined new mineral occurrences of rare earths in the form of xenotime mineralization similar in nature to the Company's advanced Browns Range Project across the border in WA.

The work completed to date has enhanced Northern's understanding of the geochemical signature surrounding the main prospect although further mapping and sampling is still intended.

Following an aboriginal heritage survey in 2014, discussions are required with the CLC for potential access to some of the excluded areas. A lack of funding since 2015 has also limited exploration programs in recent times. Northern Minerals is hoping to have resolved its immediate funding issues following the announcement to the ASX on 2 August that it had entered into an agreement with Huatai Mining Pty Ltd for a \$30 million equity funding agreement. On 12 August it was announced that the first \$3 million of the funding agreement had been received by Northern Minerals with the remaining \$27 million to be received in three instalments once the necessary shareholder and government approvals have been received. This funding will enable Northern Minerals to continue to develop its Browns Range Project in WA, as well as to continue its proposed REE exploration programs as described above, in the surrounding Tanami region.

Additional work is currently being planned for the 2016/17 exploration program to fully define the extent of known mineralization as well as to identify new mineral occurrences. Work planned includes systematic mapping of defined anomalous areas in conjunction with pXRF surface surveys in preparation for a potential drill program to outline the extent of HRE mineralisation.