PARTIAL RELINQUISHMENT REPORT EL24451

Mount Hammond

NGALIA REGIONAL PROJECT

6 February, 2006 to 8 January, 2016

EL24451_2016_P.pdf

1:250K Map Sheet: Napperby SF53-09
1:100K Map Sheets: Mount Wedge 5352, Napperby 5452

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29 February 2016

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SUMMARY

Exploration Licence EL24451 (Mt Hammond) is part of the 100% owned Energy Metals Ltd (EME) Ngalia Regional Project situated approximately 200km northwest of Alice Springs and 170km southeast of the Bigrlyi uranium project (Kerr & Liu, 2015).

EL24451 was granted on 6 February 2006. A partial reduction (reducing the EL by 16 blocks or 11% of the original area) was approved on 8 January 2016. This report covers exploration activities that occurred on the surrendered area during Energy Metals period of tenure.

The tenement comprises areas of Vaughan Springs Quartzite outcrop along the southern margin of the Ngalia Basin and granitic basement of the Aileron Province to the south. Much of the tenement comprises Quaternary regolith deposits overlying Cenozoic sediments and buried Mt Eclipse Sandstone and other Palaeozoic to Neoproterozoic age units.

No on-ground exploration activities took place on the relinquished blocks.

Exploration work on the relinquished blocks over Energy Metals’ period of tenure included an aerial geophysical radiometric and magnetic survey with interpretation (2007) and a project review (2015). Following an assessment in 2015, part of the tenement located outside the Ngalia Basin was considered to be non-prospective for uranium and was relinquished.
INTRODUCTION

The Ngalia Regional project comprises ten 100% owned exploration licences located in the Ngalia Basin, between 180 and 350 km northwest of Alice Springs in the Northern Territory (Figures 1 & 2). Seven of these tenements are contiguous and surround the Bigrlyi uranium deposit (ELR 46-55) as well as a number of other uranium deposits and occurrences including the Malawiri prospect (EME 52%, ELR41) and part of the Walbiri deposit (EME 42%, ELR45).

EL24451 (initially 144 graticular blocks located southeast of the Bigrlyi resource area) was granted on 6 February 2006 for a term of six years and was subsequently renewed for two periods of two years. An application for surrender of 16 blocks was approved by the DME on 8 January 2016. This report covers the partial relinquishment.

![Map of Australia showing project locations](image-url)

*Figure 1. Location of the Bigrlyi/Ngalia Regional Projects (NT).*
Figure 2. Tenements of the Bigrlyi/Ngalia Regional Projects (NT) as at 31 Dec 2015.

Geology and Physiography

The tenement area borders the southern margin of the Ngalia Basin with prominent outcrop of Vaughan Springs Quartzite and underlying granite. Most of the tenement is covered by Quaternary regolith which is underlain by Cenozoic sediments of the Whitcherry Basin (Figure’s 3 & 5).

The most prominent geomorphological feature of the tenement is the Stuart Bluff Range, which is comprised of Vaughan Springs Quartzite. North of the range much of the area consists of Quaternary sand plain which is drained by a number of creeks resulting in development alluvial outflow plains and ephemeral salt lakes. There are minor areas of granitic basement outcrop in the south. The Mt Eclipse Sandstone, buried under up to 100m of cover, is the primary target for uranium mineralisation in this part of the Ngalia Basin.

The relinquished areas (Figure 3) consist dominantly of regolith deposits over granitic basement south of the Ngalia Basin (Figure 5).
WORK COMPLETED From 6th February 2006 to 8th January 2016

Geophysical Survey

An airborne geophysical survey, providing radiometric, magnetic and topographic data, was conducted over Energy Metals’ Ngalia Regional tenements in September 2007 by GPX Airborne (Saul, 2008). A total of 14,932 line kilometres was flown. The data were processed by Southern Geoscience Consultants (SGC), who meshed the new data with previous company survey data. SGC were subsequently contracted to interpret the imagery in terms of structural and radiometric features. Figure 4 shows the SGC interpretation of processed magnetic imagery with prominent faults and fold axes identified, and Figure 5 shows that interpretation overlain on geology. The relinquished ground is associated with magnetic basement.

Radiometric imagery is shown in Figure 6. Features of note include the weak radiometric response of the Vaughan Springs Quartzite and radiometric features related to drainages. Radiometric anomalies on the relinquished ground are related to both drainages and sheet wash from granites within the Stuart Bluff Range.
Drilling Programs

Energy Metals did not conduct any drilling programs or other sampling programs on the relinquished ground during the period of tenure.

Figure 4. Colour-shaded TMI-RTP magnetic imagery with tilt derivative filter (TDR) applied. Structural interpretation provided by SGC including thrust faults (direction of overthrust indicated), major and minor faults (black lines), fold axes (yellow), fracture zones (S-pattern lines) and bedding or lineament trend directions (dot-dash lines). Tenement boundaries shown as in Figure 3. Note the magnetic basement signature of the relinquished ground (white polygon).
Figure 5. Napperby 250K geology shown in relation to SGC structural interpretation (see Figure 4). Pink = granite; light orange = Vaughan Springs Quartzite; purple = Mt Eclipse sandstone; other areas are quaternary deposits. Tenement boundaries shown as in Figure 3. Note the thrust fault that transects the southern margin of the Ngalia Basin.
Figure 6. Total count radiometric response map with overlaid structural interpretation. Note the weak response of the Vaughan Springs Quartzite (blue colours) and the strong response (pink colours) of granite outcrop to the south; and regolith features in red/orange colours.

Heritage Clearances

No heritage clearances were undertaken on the relinquished ground.

Project Review

During 2015, the project was reviewed to identify areas of low uranium prospectivity with a view to surrender of non-prospective ground before the next anniversary date. The following ground was recommended for relinquishment:

- Blocks located south of the southern margin of the Ngalia Basin.

An application to surrender the ground shown in Figure 3 was made in December 2015 and approved by the DME on 8th January 2016.

Digital Data

All digital data covering EMEs exploration activities on the relinquished ground has previously been reported to the NT DME.

CONCLUSIONS

Due to assessed low prospectivity for Bigrlyi-style uranium mineralisation, parts of the tenement were recommended for partial surrender with 128 blocks to be retained (see Figure 3); the partial surrender application was approved on 8th January 2016.
REFERENCES

