ANNUAL/FINAL TECHNICAL RELINQUISHMENT REPORT

EL25228

Rare Earth Metal, Uranium, Gold, Base Metals, Diamonds

FOR PERIOD ENDING 22ND NOVEMBER 2012

NORTHERN TERRITORY

Pine Creek SD5208 1:250,000
Batchelor 5171 1:100,000

Titleholder: TUC Resources Ltd

Report No. 2012-016
Prepared for TUC Resources
E A Lamb/T Page
Exploration Manager/Project Geologist
Figure 1 – Map showing extents of EL25228 and areas previously relinquished
Figure 2 – Regional stratigraphy around EL25228.
Figure 3 – Brumby Recent Drilling, showing intersections on two new reefs
Figure 4: New survey area (green polygon) in relation to nearby uranium mines/deposits (green dots) on historic low resolution radiometric data and topography.
Figure 5 – Anomalies identified by 2009 radiometrics
Table 1 – Tenement Status and Landowner information
1 Abstract

TUC Resources have held EL25228 since 22\textsuperscript{nd} November 2006, and are relinquishing the tenement at the end of the sixth year of tenure, 21\textsuperscript{st} November 2012.

Since gaining access to the licence TUC Resources have completed a historical review of the tenement examining existing prospects. TUC completed an initial 14 hole drill program on the Brumby prospect, the 606m program was tested a mineralised quartz reef system within folded gold prospective sediments. The extensional drilling on the main reef system was disappointing but exploration holes 500m to the north intersected oxide mineralisation on two separate reefs.

In the third year of tenure TUC Resources flew a low level detailed (100m line spaced) airborne magnetic and radiometric survey. The 4,030.3 line km survey covered parts of EL25223, EL25224 and EL25228. The survey revealed a number of discrete radiometric anomalies for follow up work. Subtle anomalies are located on major fault zones and in association with the uranium prospective unconformity line. Reconnaissance investigation was commenced but due to access restrictions no samples were located on EL25228.

Due to other priorities and budget restraints TUC Resources was unable to further explore the tenement in the fourth, fifth or sixth year of the tenement.
2 **Copyright**

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3 Location and Access

EL25228 is situated approximately 12km east of Adelaide River, NT, and 120km SSE of Darwin (CrossRef). The Stuart Highway crosses the southern portion of the Licence near Mt Darwent and is near the western boundary of the Licence near Mt Tymn. Access to EL 25228 is via the Stuart Highway (in the southern area) and along the Ringwood Station road in the northern part. Different tracks traverse the Licence, but most of the tenement is inaccessible during the wet season. Topography for most of the tenement is low relief, with some floodplains and black soil plains. The Adelaide River borders the NW part of the Licence, while the Howley Creek transects the eastern portion. The southern border of the Licence has higher relief and areas around Mt Foelsche, Mt Tym and Mt Darwent are also notable ridges rising out of black soil plains. The tenement has numerous creeks (many feeding into Howley Creek) which can flood in heavy rains during the wet season.

Figure 1 – Map showing extents of EL25228 and areas previously relinquished.
4 Tenement Status and Ownership

Tenement Status and Landowner information is summarised in the table below:

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</table>

Table 1 – Tenement Status and Landowner information

There are 11 other mineral claims within the original (prior to reduction) EL 25228; 10 cover the Mt Tymn Au prospect and are held by Montfall Pty Ltd (MCN’s 1326, 3026, 3029, 3030, 3032, 3033, 3035, 3036, 3038, 3039). MCN 4277 covers the H23 prospect and is held by Agricola Gold. EL 10321 held by Agricola Gold is enclosed within EL 25228 (Figure 1). Reservation from Occupation (RO) 24350 covers radio telecommunication repeater sites plus the railway line. A 30m wide easement transects the Licence from the NE to the SW which contains a high pressure gas pipeline. These tenements excise the area of EL 25228.

Partial relinquishment was undertaken in years 2 (48 blocks relinquished), 3 (32 blocks) and 4 (12 blocks) but partial relinquishment was not required at the end of year 5 due to a change in requirements under the new mineral titles act.

TUC Resources is relinquishing EL25228 at the end of the sixth year, 22nd November 2012.
5 Geology

The project is situated within the Pine Creek Geosyncline, a tightly folded sequence of Lower Proterozoic rocks. A full description of the geology and stratigraphy of the Pine Creek Geosyncline can be found in several texts, including Ahmad et al., (1993; Ahmad, 1998). The 1:100,000 Batchelor – Hayes Creek Region Geological Special map covers the tenement areas (Crick, 1980).

5.1 Stratigraphy

The area covers the Finniss River Group (Burrell Creek Formation) which is dominantly feldspathic greywacke with interbedded siltstones. A very small section (<1 block) in the SE part of EL25228 is underlain by Gerowie Tuff and Mt Bonnie Formation from the Mt Partridge Group (Figure 2).

5.2 Structure

The Mount Shoobridge fault transects the central part of the tenement and regional maps show some NNW-trending (north plunging) symmetrical folds throughout the tenement. Quartz veins parallel to these folds and within fold noses are common.
Figure 2 – Regional stratigraphy around EL25228.
6 Previous Exploration

6.1 Exploration by Other Companies

Previous exploration from the 1970’s to the present has been reviewed and summarised in previous annual reports for these tenements. Exploration ranged from airborne geophysics to drilling exploring for uranium, gold and base-metals, geochemical exploration was also undertaken. Historical exploration is summarised in Appendix 1.

On EL25228 exploration was undertaken by Central Pacific Minerals, Aquitaine, Pan Dor mining, WMC, Ringwood and others. Exploration involved drilling, geophysics and geochemistry primarily for gold and uranium.

7 Exploration by TUC

7.1 Year 1

Work done during Year 1 of tenure consisted of a historic compilation, which included a review of targets and prospects. Also the available geophysics (from both regional NTGS airborne surveys) and Open File Company Surveys were reviewed by a Consultant Geophysicist.

7.2 Year 2

A total of 14 RC holes for 606m were drilled at the Brumby prospect, a mineralised quartz reef system within folded gold prospective sediments, 25km south of Adelaide River town. Extensional drilling on the main reef system was disappointing but exploration holes targeting soil anomalies 500m to the north intersected oxide mineralisation on two separate reefs (Figure 3). Results on the two newly identified reefs are promising as neither of the reefs had been drilled previously and scope remains for improvements in grade and thickness.

Field reconnaissance and ground scintillometer work was also undertaken at a number of radiometric anomalies and 7 rock chip samples were taken. No significant results were returned but further investigation is warranted.
7.3 **Year 3**

In June and July, a low level detailed (100m line spaced) airborne magnetic and radiometric survey was completed by Fugro Airborne Surveys Pty. Ltd. to reveal any previously hidden opportunities in this uranium-rich province. The survey area is along strike of the Adelaide River uranium mine (historical production of ~3,500t @ 0.5% U3O8*) and North West of the Fleur De Lys uranium mine (historical production of ~122t @ 0.22% U3O8*) (Figure 7). There were two areas, flown in 8 flights for a total of 4030.3 line kms. The survey covered parts of EL25223, EL25224, and EL25228. The area covered by the survey is shown in Figure 3.
Figure 4: New survey area (green polygon) in relation to nearby uranium mines/deposits (green dots) on historic low resolution radiometric data and topography.

The data acquired during the survey included Total Magnetic intensity, Total count, Potassium count, Uranium count, Thorium count and a digital terrain model. The final data products are included as Appendix B, attached.

The survey revealed a number of discrete radiometric anomalies for follow up work. Figure 3 shows areas of interest on a simplified geological map. Subtle anomalies are located on major fault zones and in association with the uranium prospective unconformity line. Reconnaissance investigation was commenced but due to access restrictions no samples were located on EL25228.
Figure 5 – Anomalies identified by 2009 radiometrics

7.4 Year 4

TUC Resources intended to follow up on a number of discrete radiometric anomalies identified in the radiometric survey. Unfortunately due to other exploration programs, Quantum (EL25229) and Stromberg (EL25222), and budget restraints TUC Resources was unable to perform any work on the anomalies.

7.5 Year 5

No work was carried out during the fifth year of tenure.

7.6 Year 6

No work was carried out during the sixth year of tenure, and due to other priorities TUC Resources decided to not extend the exploration leaves.
8 References


Crick, I., 1980. Geology of the Batchelor-Hayes Creek Region. BMR 1:100,000 Geological Special.

Rade, J., 1956. Shearing along anticlines as an important structural feature in uranium mineralisation in the northern part of the Northern Territory of Australia. Journal of Economic Geology.


9 Appendices

9.1 Appendix 1

• Previous Tenure on EL25228.xls

9.2 Appendix 2

• ConsultantGeophys_Images.zip
• Fugro_Flight_June09.zip