# YEAR 3 RELINQUISHMENT REPORT

# EL 25228

# "HOWLEY CREEK"

# FOR PERIOD ENDING 22nd November 2009

# RUM JUNGLE / PINE CREEK PROJECT NT

| | |
|---|---|
| **Pine Creek SD5208** | **1:250,000** |
| **Batchelor 5171** | **1:100,000** |

## Titleholder: Territory Uranium Company Limited

**Report No. 2010-008**
**Prepared for Territory Uranium Limited**
**By Tara Muth**
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# 1. SUMMARY

EL 25228 is East of Adelaide River and Territory Uranium Company Pty Ltd is exploring for uranium and Gold within this tenement. At the end of year two 48 blocks were relinquished as part of the second year compulsory relinquishment required by the act. At the end of Year 3, 32 blocks were relinquished as part of the third year compulsory relinquishment. This report details the work done by Territory Uranium (TUC) on the surrendered ground.

Work completed by Territory Uranium consisted of a review of previous exploration, drilling, rock chip samples, scintillometer traverses and a radiometrics flight, followed by an additional sampling program.

# 2. LOCATION AND ACCESS

EL25228 is situated approximately 12km east of Adelaide River, NT, and 120km SSE of Darwin (Figure 1). 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.

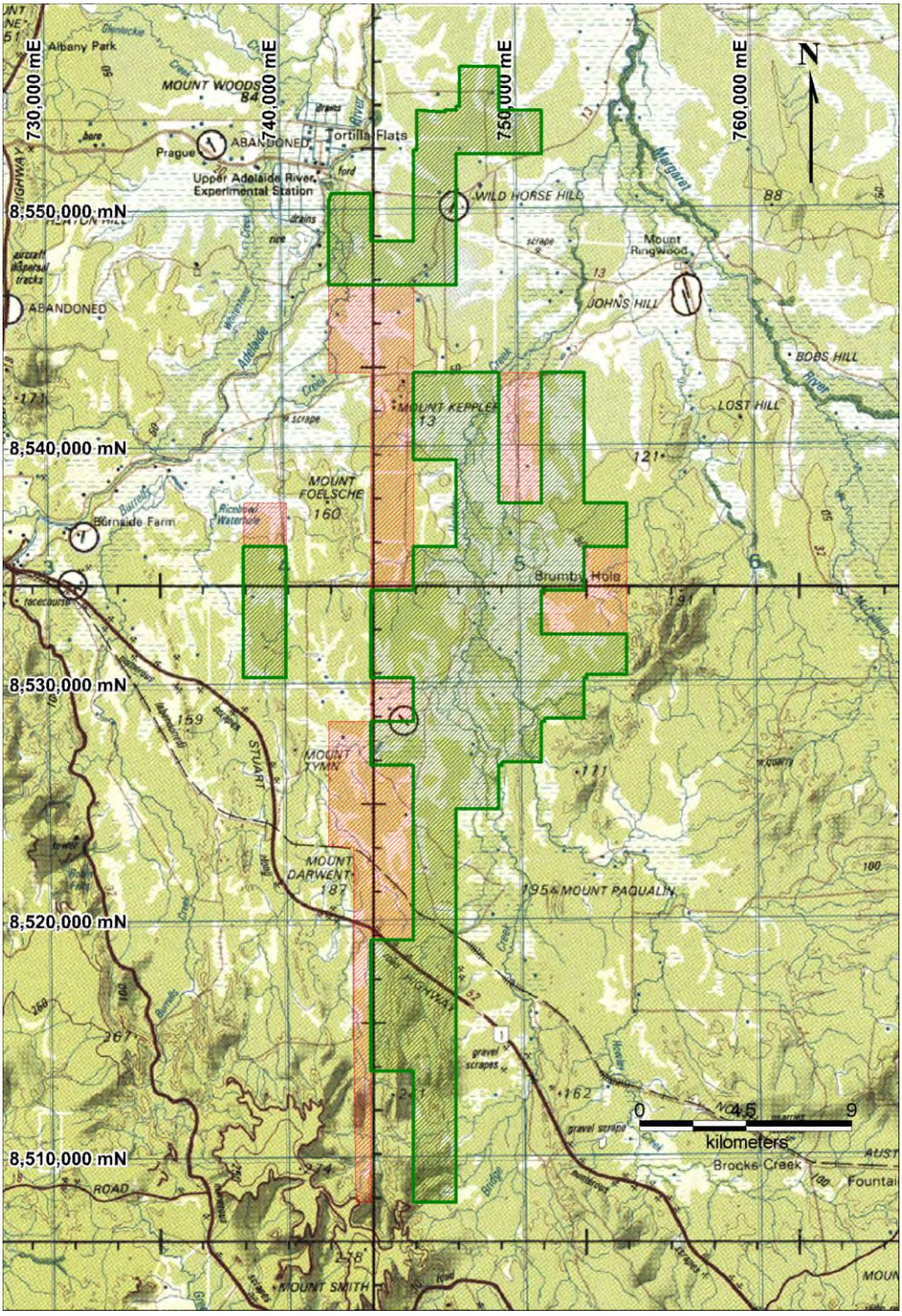


**Figure 1 Location Map of EL25228**

# 3. TENEMENT STATUS AND OWNERSHIP

EL 25228 was granted on 23rd November 2006 and expires on 22nd November 2012. It comprises 62 graticular blocks (202.9 sq km) after reductions, which are reduced in size to less than the full block along the Adelaide River boundary. There are 11 other mineral claims within 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.

Underlying cadastre is mixed with Perpetual Pastoral Lease, Pastoral Lease and Freehold titles. Landholders are below:
Limpine Pty Ltd (NT Portion 625 159)
Adelaide River Grazing Company (NT Portion 367 00181 and 367 00174)
Markus Anthony Rathsmann (NT Portion 000 6298 Pastoral Lease 1182)
Whites Pastoral Company Ltd (NT Portion 000 2850 Perpetual Pastoral Lease 991)
Branir Pty Ltd and Tovehead Pty Ltd (NT Portion 000 2683 Pastoral Lease 903)
Donald Aaron White (NT Portion 000 6299 Pastoral Lease 1183)

The current expenditure covenant was set at $21,500.

Second year compulsory reduction was undertaken at the end of year 2 with a total of 48 blocks dropped. The remaining 94 blocks were then reduced at the end of year 3 by 32 blocks, these are shown in Figure 1.

# 4. GEOLOGY

EL 25228 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 area (Crick, 1980).

The tenement area covers the Finniss River Group (Burrell Creek Formation), except for parts of 5 blocks to the northwest, which cover Gerowie Tuff and Mt Bonnie Formation from the Mt Partridge Group (Figure 2). The structure consists of S-SE trending symmetrical folds with gentle southerly plunges in the western part of the tenement.

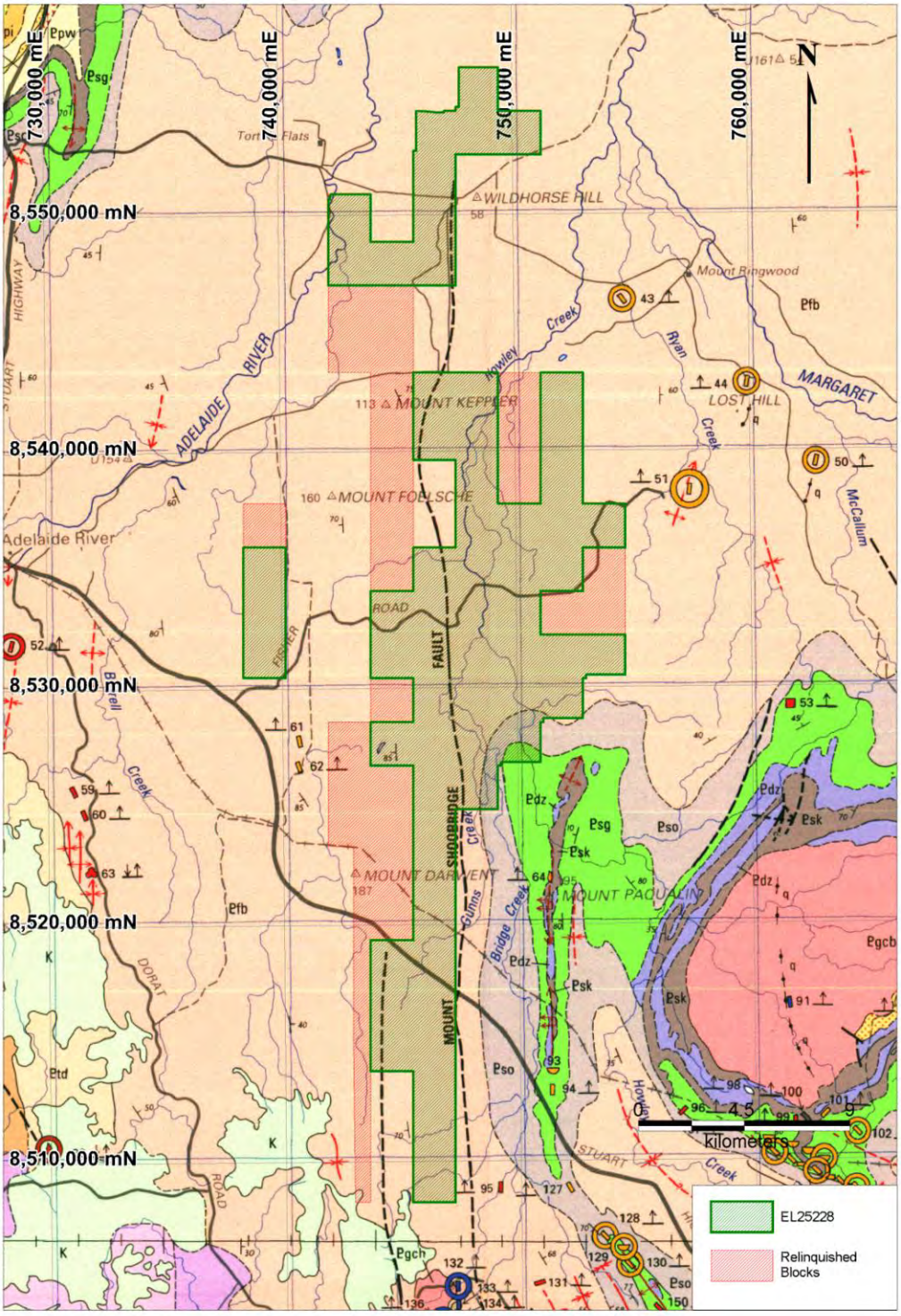


**Figure 2 Geological Map of EL25228**

# 5. HISTORICAL EXPLORATION

A detailed summary of previous tenure and exploration is given in Appendix 1 and summarised below.

Exploration has been carried out in the area since 1968 by numerous companies. Exploration primarily involved rock chip, soil and stream sampling for gold and some base metal analysis (especially in the North West corner of the tenement). Historical drilling was primarily focussed on the Brumby project.

During Year 1, Territory Uranium compiled all existing historic data over the tenement including tenure, datasets, open file reports and geo-referencing of relevant maps. This enabled an informed review of the tenement's prospectively in regards to Gold and Uranium.

# 6. EXPLORATION DURING YEAR 1 (2007-2008)

In 2007 all available historical data was reviewed (Appendix 1).

# 7. EXPLORATION FOR YEAR 2 (2008-2009)

The main focus of exploration on EL25228 for year 2 included RC drilling and a reconnaissance program. This reconnaissance work consisted of Rock Chip Samples and Scintillometer readings. None of the work performed by Territory Uranium was carried out on the relinquished ground.

# 8. EXPLORATION FOR YEAR 3 (2009-2010)

During Year 3, a radiometric survey was undertaken over TUC's Pine Creek project Area by Fugro Airborne Surveys and the data was reviewed by Lindeman Geophysics. Images for Uranium, Thorium, Uranium/Thorium and Total Count were produced (Figures 3 to 6 respectively). Digital data of the images relevant to the relinquished ground are provided as MapInfo tables in Appendix 2. In addition, the final report and data acquired from the airborne survey are submitted as a whole in Appendix 2. Subsequent to the radiometric survey, a geochemical sampling program ensued, with the intent to further explore some of the anomalies highlighted by the radiometric work. No samples were collected over the relinquished ground.

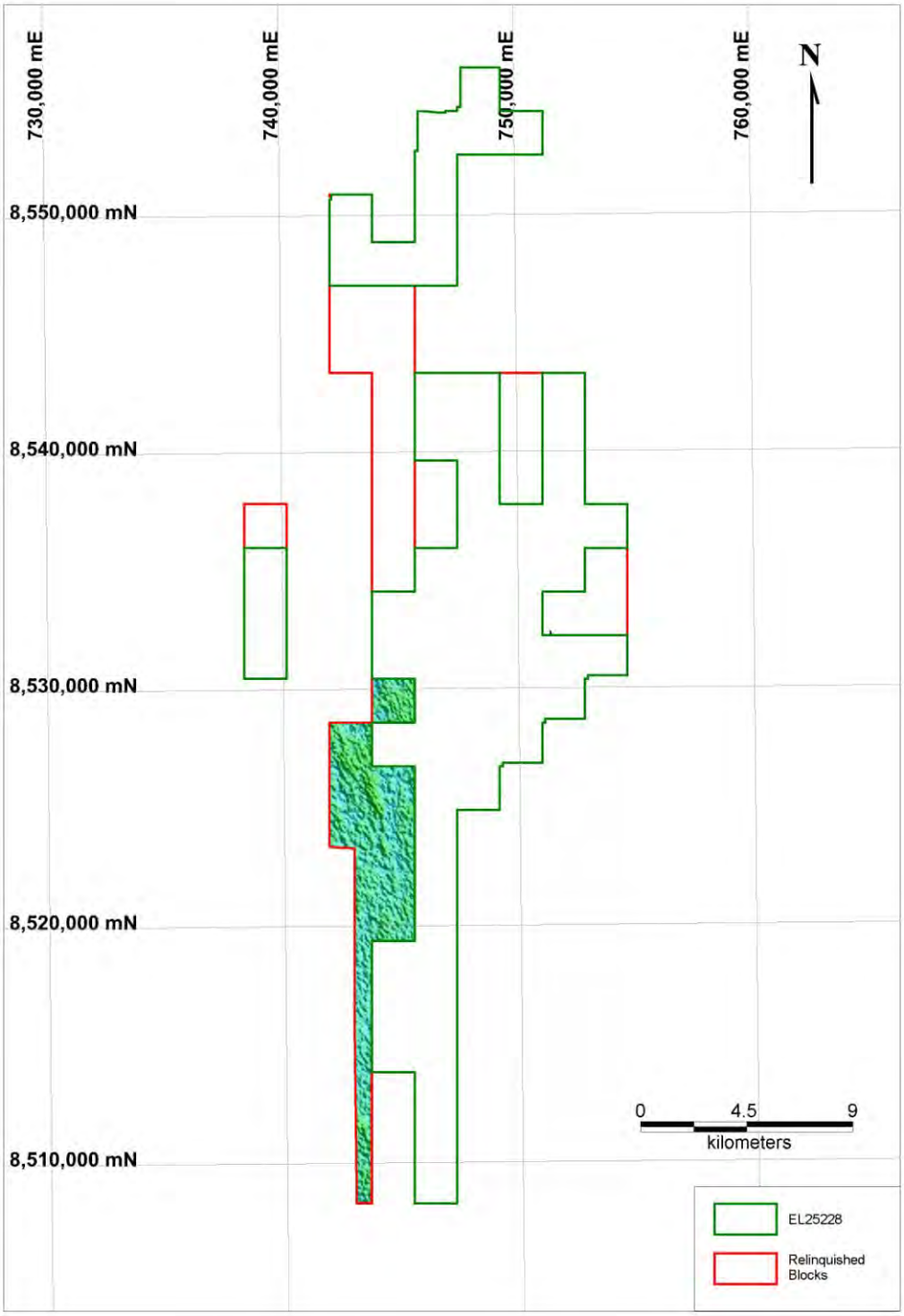


**Figure 3 Uranium Image**

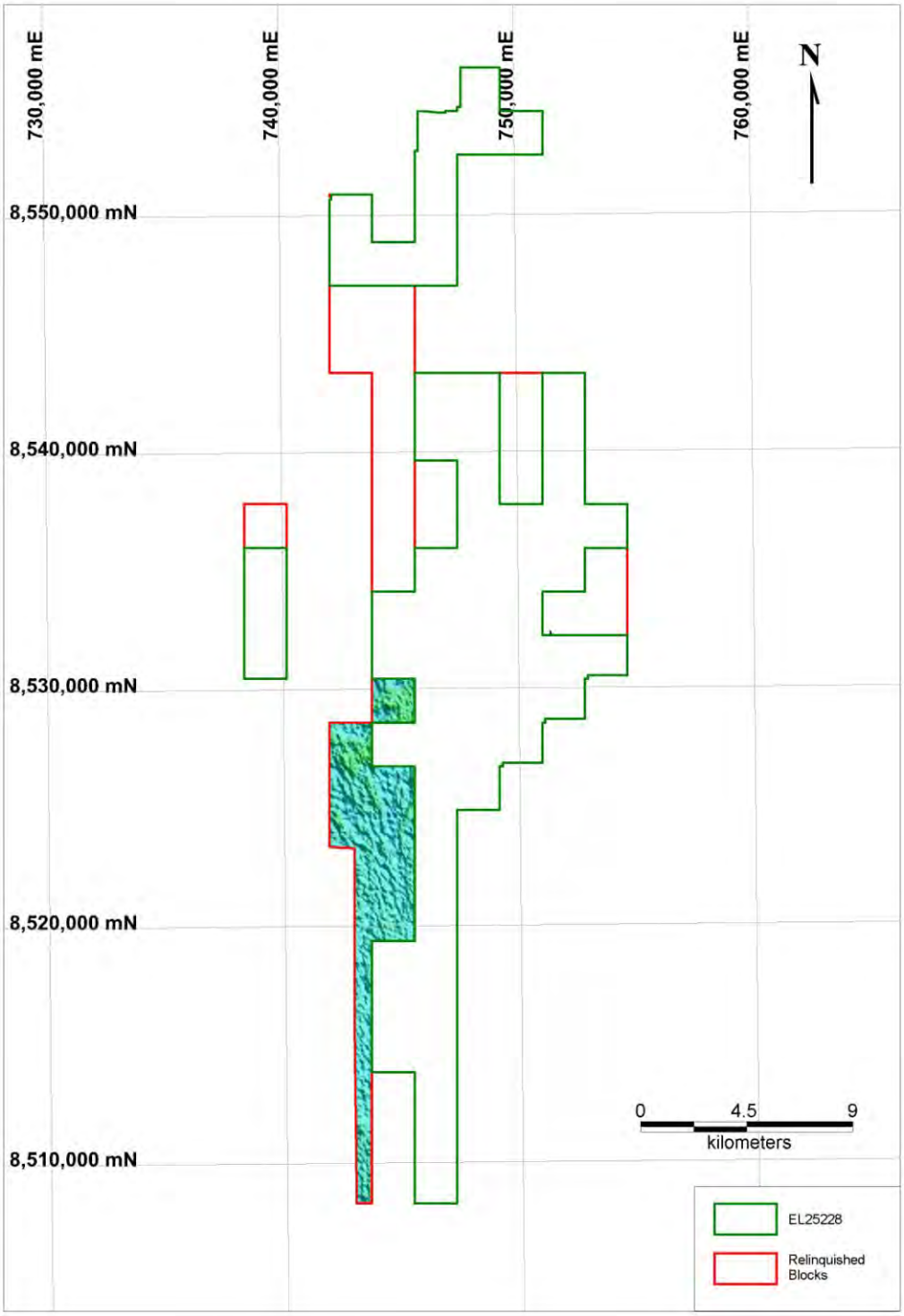


**Figure 4 Thorium Image**

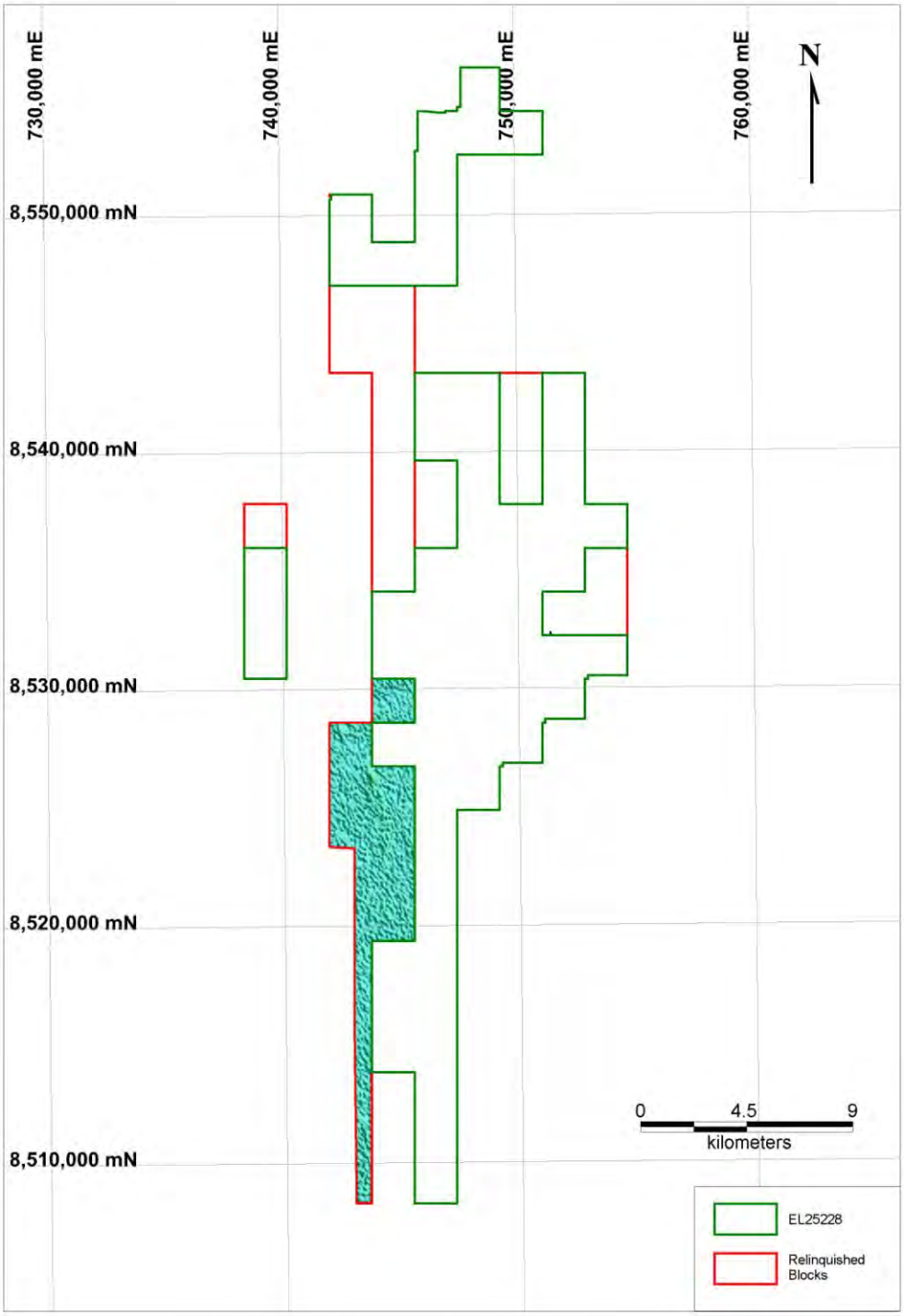


**Figure 5 Uranium/Thorium Image**

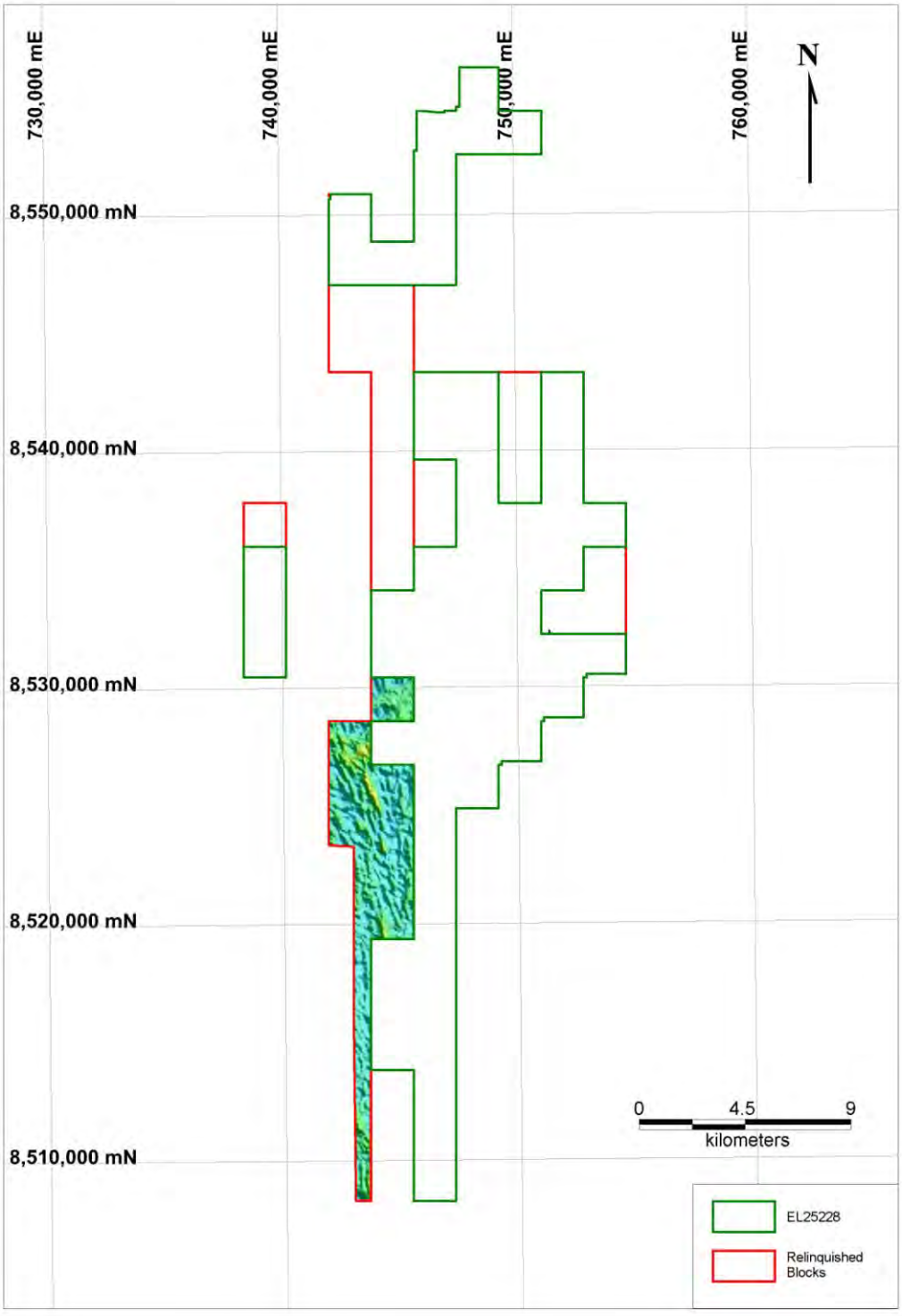


**Figure 6 Total Count Image**

# 9. REFERENCES

Ahmad, M., 1998. Geology and mineral deposits of the Pine Creek Inlier and McArthur Basin, Northern Territory. *AGSO Journal of Australian Geology and Geophysics, 17(3), pp1-17*.

Ahmad, M., Wygralak, A.S., Ferenczi, P.A., and Bajwah, Z.U. 1993. Explanatory Notes and Mineral Deposit Data Sheets. *1:250,000 Metallogenic Map Series, Department of Mines and Energy, Northern Territory Geological Survey*

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*.

# 10. APPENDIX 1

Central Pacific Minerals explored a large part of the Pine Creek Geosyncline (including the southern portion of EL 25228) under **AP1959** between 1968 and 1972. From 1970, the work focussed on identified prospects and explored for U and base metals. None of the prospects in the report are within EL23516. Central Pacific continued to explore an area north of the Burnside granite (covering the 5 SE blocks of EL25228) under **EL 616** for U and base metals. None of their work can be reliably located within the tenement boundaries, but it also seems that the work is in other areas.

CRA Exploration explored a lot of the area around Batchelor – Adelaide River, firstly on **AP 2483** then under different exploration licences. The work carried out on AP 2483 (which included stream sediment sampling and an airborne scintillometer survey) did not extend into EL 25228.

Aquitaine Australia explored a very large area (**EL 1653**) around Mt Bundey that also covered 3 eastern blocks of EL25228. Exploration focussed around the Mt Bundey granite for uranium and base metals between 1977 and 1981. Aquitaine concluded that the area was still prospective for base metals.

Pan D'or Mining NL held **EL 1656** from 1981. The H20 - H26 gold prospects were located during helicopter reconnaissance sampling (Figure 3). H22 is on TUC's EL 24906. H23 became the Watsons prospect and is under MCN tenure (held by Agricola) within EL 25228. H24 (now called Reid) and H26 (now called Cook) are on EL 10321 (held by Agricola) which is surrounded by EL 25228. H21 is in the northern corner of EL 25228 and is described as "*a stockwork of gossanous quartz reefs, greywacke and shale. Not as large as the previous anomalies*" (ie; H22 – H24). H21 had a best result of 3.66g/t Au from 3 rock chip samples. A photogeological report notes that *„there are plenty of quartz veins that should be sampled, particularly those along the large faults*.' These quartz veins were not sampled for vein-style U mineralisation. Other comments about H21 (extending south to Wild Horse Hill) include "*a NNE-trending belt of massive quartz veining with associated gossanous disseminations and stockwork veining carries anomalous gold over at least 6km with maximum values of 3.66g/t And 4.9g/t Au. A parallel belt of veining about 1km west has only been sparsely sampled*". Other reports noted "*a maximum assay of 1.31g/t Au over 7km of outcropping stockwork veined wacke, but the occurrence of more strongly mineralised stockwork observed beneath quartz and*

*wacke scree is indicated*". Systematic soil sampling was carried out on 50m x 100m grid in 1985/86 gave >100ppb Au gold in soil anomaly over a 600m x 300m area. From the 3 dominant vein attitudes it appears that most gold is contained in the major steeply north-dipping veins.

Under the Ringwood JV with WMC, gridded regional soil sample surveys at 40 spacings on 800m lines over prospects were „generally consistent' with the distribution of known rock chip anomalies. B1 and B2 anomalies were found from the soil sampling near known Pb-As-Au mineralisation. Drilling at B1 prospect intersected 8m @ 6.16g/t Au from surface (2m composites) in RTB2. WMC followed up with 9 RC holes (totalling 540m) with disappointing results from step-out drilling. Further away, drilling in RTB-12 intersected 2m @ 7.95g/t Au, with 3m @ 5.3g/t Au in RTB-13. The geology indicates that thin vein zones, which can be traced between sections by surface quartz lag and subcrop, are bedding conformable and preferentially hosted in chlorite-sericite-quartz phyllite. The vein zone may be repeated by faulting or tight folding between 8100N and 8175N but the data was not definitive. Low grade intersections in RTB-10 on 8200N may indicate a shoot may be present in the vein system north of 8200N which has not been closed off by current drilling.

WMC also explored EL 2362 (covering 3 eastern blocks of EL 25228) as part of the Ringwood JV. Originally, work was done by WJ & EE Fisher using helicopter-assisted geochem sampling with follow-up work by WMC. Applications for ERL's and mineral claims were made over prospective areas. Goodall was Anomaly 1, but there were 13 medium-small gold anomalies, plus one small Cu-Pb-Au anomaly also delineated from this work. Anomalies that fall within EL25228 include C13 and C16. C13 is described as "*sporadically outcropping altered dolerite or lamprophyre emplaced in or near an anticlinal axial zone in a sequence of wacke with minor siltstone*." C16 is described as „*dolerite with some quartz veining*' with drill cuttings to 0.07g/t Au.

The Ringwood JV continued work over EL 25228 under the new tenure of **EL 5319, 5321** and **5322**. Work within EL 25228 included an IP survey and drilling at J25 (a fault splay off the Shoobridge Fault) which gave results „weakly enriched in gold' but was not considered an economic target. Much of WMC's focus switched to Goodall by around 1990.

Work done by WR Grace Australia on **EL5318** outlined the C2, C3, C4 and C17 anomalies. These anomalies were found during exploration under EL2362. The prospective areas were replaced by MLN1049 (currently covering Goodall) and

MLN1037. Work done was quite detailed, and included drilling (in local coordinates) and mapping.

**EL 5105** was explored for gold mineralisation by the Woodcutters JV in 1987, and covered only a few blocks east of the Adelaide River within EL25228. Geochemical sampling outlined 2 anomalous areas, both west of EL 25228. It does not appear that any work was carried out within EL 25228.

On **EL 8547** (held by John Earthrowl and explored by Savanna Resources from 1995 to 2000) the exploration rationale was to „seek out the less obvious geological indicators' as the previous companies had targeted outcropping quartz veins. Reconnaissance indicated that the quartz veining is widespread and variable in age and sulphide content. Reconnaissance geochemical sampling returned disappointing results, with the note that surrounding tenements were returning anomalous grades. In Year 3 the geophysical interpretation of multiclient data was carried out by Southern Geoscience Consultants. Eleven targets of 5 different types were highlighted, all are within EL 25228 (Figure 3). Gridded soil sampling along strike from known gold mineralisation on a contiguous tenement gave no values >1ppb Au. The location of the soil grid is west of the T1 geophysical anomaly, which indicates that the strike of potential mineralisation may have been fault offset to the east and remains a target.

Northern Gold carried out MMI Geochem sampling on **EL8573** did not extend into EL25228 and no other geochem data was collected over the two blocks of EL25228 that formed part of EL8573.

**EL 9005** was held by SBA Distributors, J.Earthrowl and P. Melville; and exploration targetted gold mineralisation. In the first year 110 rock chip samples were collected, none of which were on EL 25228.