

REDUCTION REPORT

EL 27746

Adelaide River Prospect

Part of: ACACIA FRAZERS GROUP PROJECT NT (GR284-13)

FOR PERIOD ENDING May 2013

Darwin SD52-04	1:250,000
Noonamah 5172	1:100,000
Manton Dam 5172-3	1:100,000

Titleholder: Arnhem Minerals Pty Ltd (ABN: 40 158 247 226)



ARNHEM
MINERALS

Report No: 2013-029
Prepared for Arnhem Minerals Pty Ltd
By A. Phelan
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1. SUMMARY

EL27746 is located about 50 kilometres south east of Darwin, Northern Territory and is located to the west of the Adelaide River which forms the eastern border. It can be accessed via the Arnhem Highway, off the Stuart Highway in the north. The tenement is on freehold land in the rural area of Darwin's south and is very accessible during the dry period.

Whilst significant base metal and gold exploration has been undertaken over the project area that contains EL27746 (GR284-13 Acacia Frazers Group Project), a low level of exploration has been undertaken within this specific tenement.

EL27746 is considered to have potential for basemetal, uranium and REE mineralisation. Exploration on EL27746 was limited during Year 1 & 2. Year 1 Equator Resources Limited owned the tenement and no exploration was undertaken to the knowledge of Arnhem Minerals. The Acacia Frazers Group Project (containing EL27746) was sold by Equator Resources Limited to Arnhem Minerals Pty Ltd in 2011. This took much of Year 2 resulting in no on-ground exploration being undertaken on the tenement. The sale was completed in February 2012 and the tenement transfer completed shortly before Year 2 anniversary. During Year 3, exploration work was undertaken over the whole of the GR284-13 Acacia Frazers Group Project (which includes EL27746) and comprised a review of previous reports, modelling and targeting. Historical data compilation and interpretation was used to generate prospective REE, gold, base-metals and uranium targets. None of the generated targets were in EL27746 and due to the time allocated to targeting over the whole of the Acacia Frazers Group, no further exploration was carried out on EL27746.

The tenement was reduced from 45 to 21 blocks at the end of year 3. This report details exploration completed on the relinquished ground (no drilling and no samples).

2. INTRODUCTION

EL27746, granted on 25/05/2010, reached the end of its third year on 24/05/2013. In 2011 Arnhem Minerals went into negotiations with Equator Resources Limited to purchase the Acacia Pty Ltd Frazers Project (which includes EL24932, EL25027, EL26434, EL26777, EL27282, EL27349, EL27746 and EL27747) and the transfer was finalised and registered on 4th April not long before the third anniversary of EL27746.

Arnhem Minerals has partially surrendered 24 of the 45 blocks, please refer to Figure 1 and Table 1 and this report details the exploration completed on the relinquished ground (no drilling and no sampling was undertaken).

Grid ID	BIM	Block	Sub Block
SD52568N	SD52	568	N
SD52568O	SD52	568	O
SD52568R	SD52	568	R
SD52568S	SD52	568	S
SD52568T	SD52	568	T
SD52568V	SD52	568	V
SD52568W	SD52	568	W
SD52568Z	SD52	568	Z
SD52569V	SD52	569	V
SD52640B	SD52	640	B
SD52640E	SD52	640	E
SD52640G	SD52	640	G
SD52640H	SD52	640	H
SD52640J	SD52	640	J
SD52640M	SD52	640	M
SD52640Q	SD52	640	Q
SD52640R	SD52	640	R
SD52640V	SD52	640	V
SD52640W	SD52	640	W
SD52712A	SD52	712	A
SD52712B	SD52	712	B
SD52711K	SD52	711	K
SD52712F	SD52	712	F
SD52712G	SD52	712	G

Table 1: Blocks surrendered.

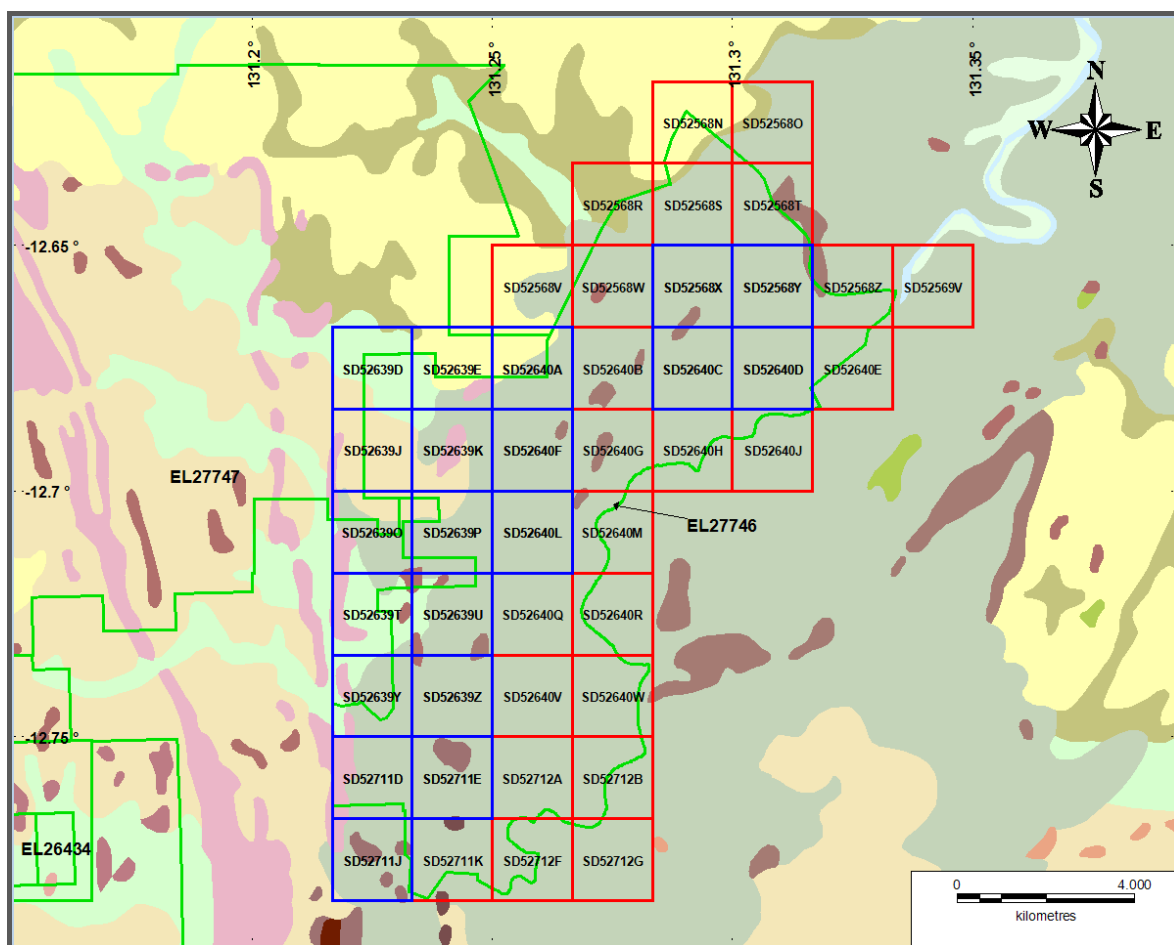


Figure 1: Partial Surrender EL27746, Blue – Retained blocks, Red – Surrender blocks.

3. LOCATION AND ACCESS

Exploration Licence EL27746 is located on the Darwin (SD52-04) 1:250,000, Noonamah (5172) 1:100,000 and Manton Dam (5172-3) 1:50,000 map sheets.

The licence area is about 50 kilometres south east of Darwin, Northern Territory and is located to the west of the Adelaide River which forms the eastern border. It can be accessed via the Arnhem Highway off the Stuart Highway in the north. The tenement is on freehold land in the rural area of Darwin's south and is very accessible during the dry period. Figure 2 represents a regional location of the tenement.

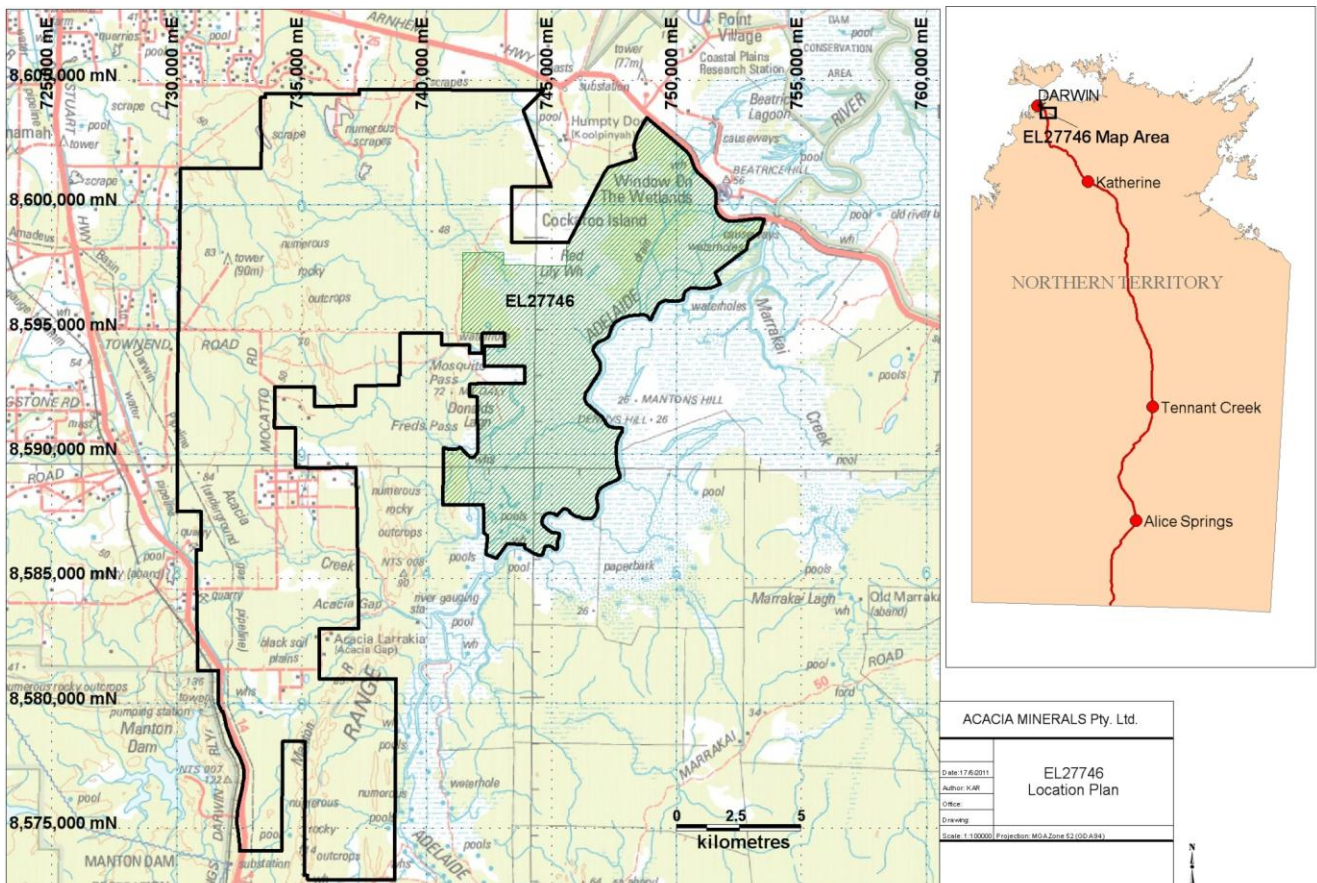


Figure 2. Location plan of EL27746 (shaded green) within Acacia Frazer Project area (black outline)

4. TENEMENT STATUS AND OWNERSHIP

EL27746 was granted for a period of six years in 2010 to expire on 24th May 2016. The 91.33 sq. km (45 blocks) area falls within various NT Freehold Land sections. Tenement status details for EL27746 are given in table 2 below.

Tenement	Blocks	Grant Date	Year	Anniversary	Covenant	Tenure	Owner
EL27746	45	25/05/2010	3	10/03/2013	\$23,000	Freehold	Divided in small blocks with around 8 different owners

TABLE 2 Tenement Status and Landowner Information

On reaching the end of its third year on 24/05/2013 Arnhem Minerals Pty Ltd partially surrendered 24 of the 45 blocks.

5. GEOLOGY

5.0 Regional Geology

EL27746 is situated in the northern section of the Pine Creek Geosyncline within the Rum Jungle region. The Rum Jungle area is an Archaen basement complex unconformably overlain by Proterozoic stratigraphy, see Figure 3. The Proterozoic stratigraphy comprises clastic and dolomitic units of the Namoon Group and the Mount Partridge Group. The Mount Partridge Group consists of the Crater Formation and Coomalie Dolomite; shales and calcareous shales of the Whites Formation, and shales with interbedded quartzite (Acacia Gap Quartzite Member) of the Wildman Siltstone. Unconformably overlying the Mount Partridge Group sequence is the Koolpin Formation of the South Alligator Group.

Uranium and base metal mineralisation at Rum Jungle and Woodcutters is concentrated in structural zones in the lower Whites Formation just above the Coomalie Dolomite. Gold mineralisation at Sundance, Batchelor, is within palaeokarst collapse breccias above the contact of the Coomalie Dolomite and Whites Formation. Base Metals are associated with mafic units intersecting the Coomalie and Whites Formations.

The structure of the area is dominated by an early phase of N-S trending open folds and strike slip faulting consistent with extensional basinal development. A major arcuate fault has been identified in the western portion of the region from interpretation of aeromagnetic

and radiometric data. These structures have been subsequently offset by a later phase of NE-SW trending structures, dominated by the Giants Reef Fault.

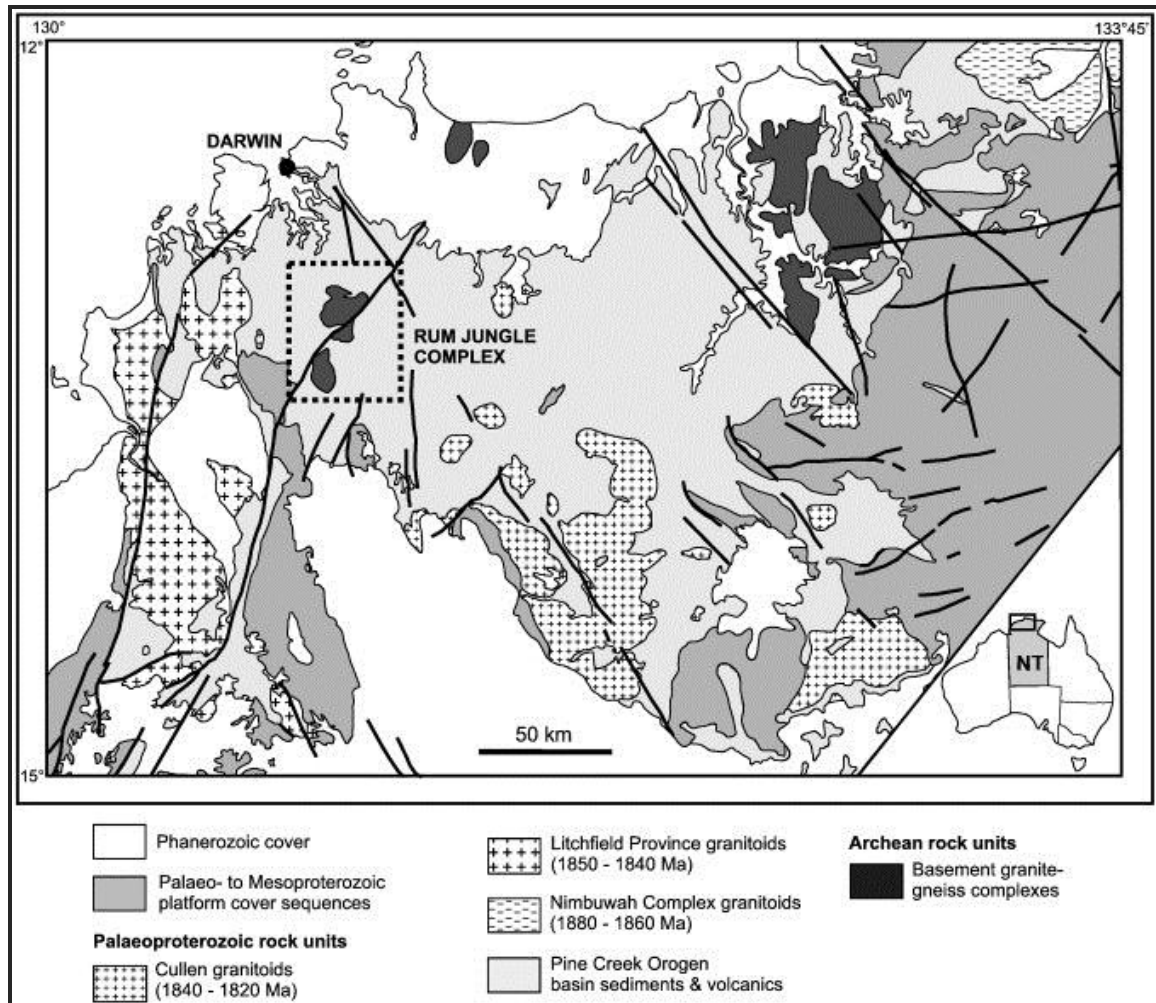


Figure 3: Geological Terrains Top End of NT (McCready A.J., Stumfel E.F. 2004)

5.1 Local Geology

Most of the project area is covered by Quaternary black soil, with scattered outcrops of Koolpin Formation (ferruginous and carbonaceous siltstone, shale and phyllite, some chert and ironstone, and rare dolomite, para-amphibolite and schist). The Acacia Gap Quartzite Member of the Wildman Siltstone outcrops along the western part of the tenement. The Giants Reef Fault passes through the centre of the tenement.

The airborne geophysics did not extend to any great extent onto the tenement to help better define the rock formations.

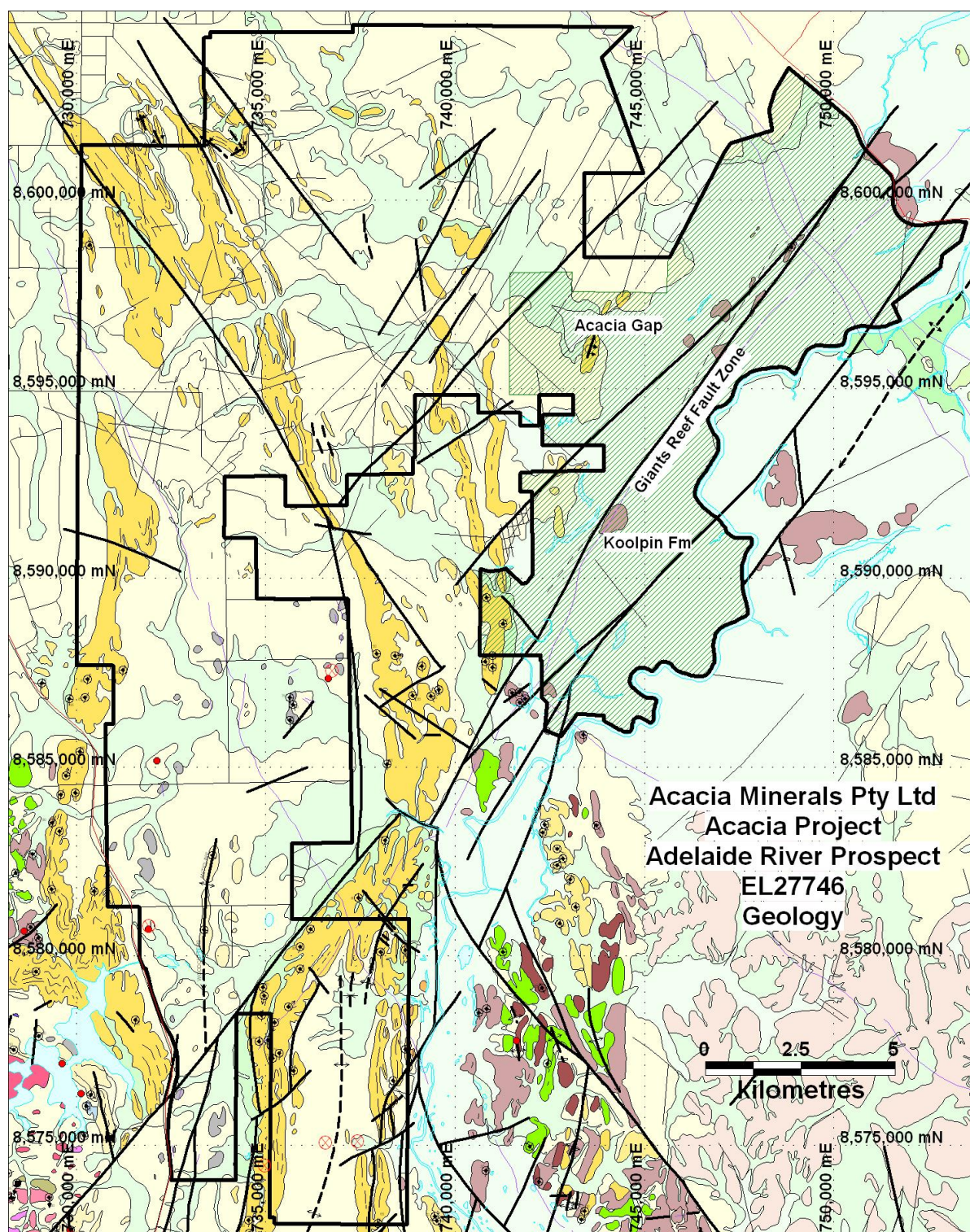


Figure 4. Local geology of EL27746 (green hatched area) within Acacia Frazer Project Area (black outline)

6. PREVIOUS EXPLORATION

Whilst significant exploration over the GR284-13 Acacia Frazers Group project area (containing EL27746) has been undertaken for base metals and gold, the review highlighted the low level of historical exploration on this tenement. However there is potential for basemetal, uranium and REE mineralisation in EL27746.

Historical exploration over the project area mainly occurred from 1974 to 1998 and then recommenced in 2007 with Glengarry. Work done includes geochemical exploration across the project area (stream sediment sampling, rock chips, soils and auger sampling), drilling (RAB, RC and Diamond drilling) and geophysics done by the Northern Territory Geological Survey. Geophysics work includes radiometric and magnetic maps.

7. EXPLORATION DURING YEAR 1

EL27746 was owned by Equator Resources during Year 1. No exploration on the tenement was undertaken, according to the information sent to Arnhem Minerals from Equator Resources. However Equator Resources undertook significant exploration by airborne geophysics, diamond, RAB and RC over the GR284-13 Acacia Frazers Group Project Area.

8. EXPLORATION DURING YEAR 2

Exploration on EL27746 was limited during Year 2 due to the sale of the Acacia Frazers Group Project by Equator Resources Limited to Arnhem Minerals Pty Ltd. Due to a change in company strategy Equator decided to sell the project (including this tenement), to Arnhem. The project review and sale process took much of 2011 (year 2) resulting in no on-ground exploration being undertaken on the tenement. The sale was completed in February 2012 and the tenement transfer completed shortly before Year 2 anniversary of this licence.

9. EXPLORATION DURING YEAR 3

During Year 3, exploration work was undertaken over the whole of the GR284-13 Acacia Frazers Group Project and comprised a review of previous reports, modelling and targeting. Historical data compilation and interpretation was used to generate prospective REE, gold, base-metals and uranium targets, see Figure 5.

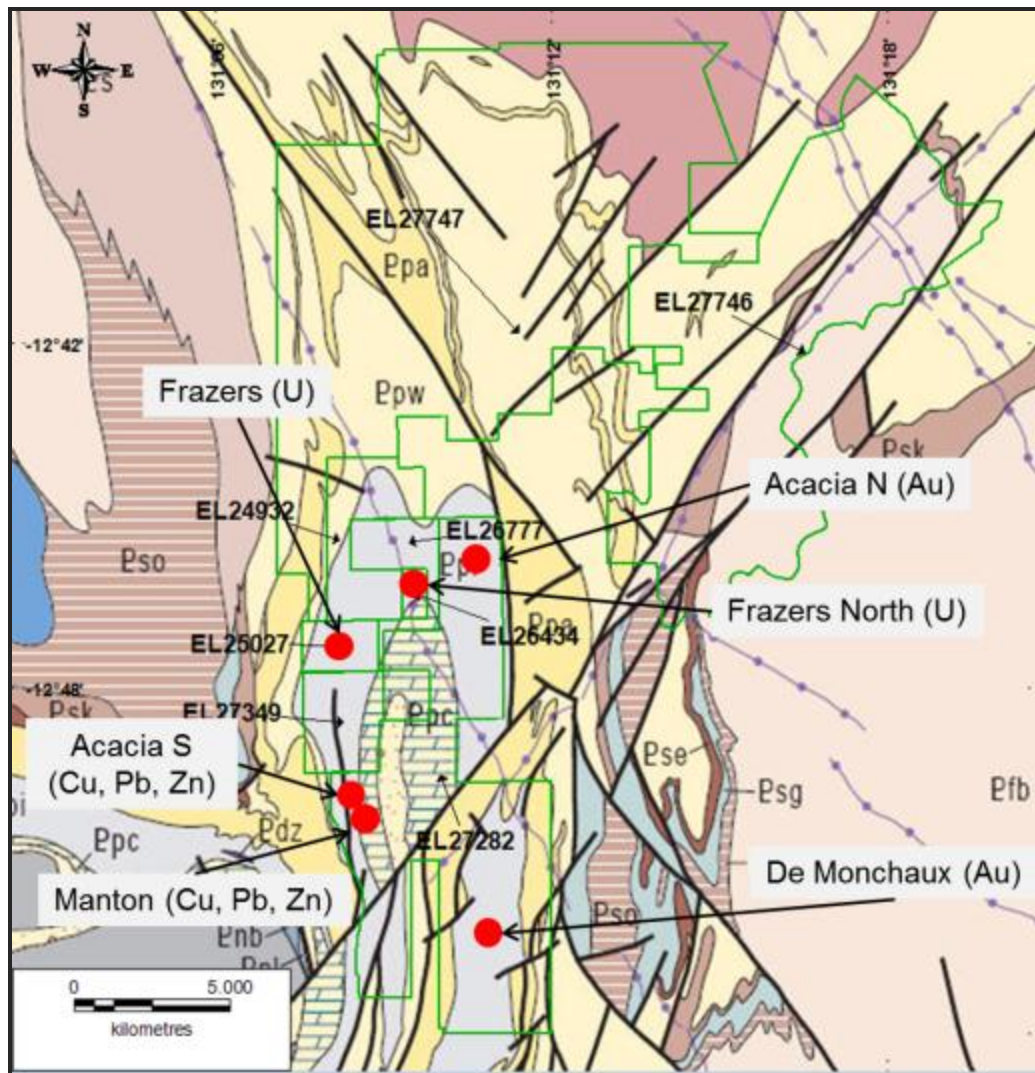


Figure 5: Targets defined from historical work.

None of the generated targets are in EL27746. Due to the time allocated to targeting over the whole of the Frazer Acacia Group, no further exploration was carried out on EL27746.

10. CONCLUSION

EL27746 was reduced from 45 to 21 blocks at the end of year 3 on the 24/05/2013.

Exploration work was undertaken over the whole of the GR284-13 Acacia Frazers Group Project (which includes EL27746) and comprised a review of previous reports, modelling and targeting. Historical data compilation and interpretation was used to generate prospective REE, gold, base-metals and uranium targets. None of the generated targets were in EL27746 and due to the time allocated to targeting over the whole of the Acacia Frazers Group, no further exploration was carried out on EL27746 (no drilling and no samples). As no prospective targets were generated in EL27746 and the area is not considered prospective for basemetal, uranium or REE mineralisation, it was decided to relinquish 24 blocks.

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