ANNUAL TECHNICAL REPORT EL27746

FOR YEAR TWO

ACACIA PROJECT AREA

(Adelaide River Prospect)

for the period

25th May 2011 to 24th May 2012

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DARWIN SD52-04
NOONAMAH 5172
MANTON DAM 5172-3
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**Summary**

Exploration on EL27282 was limited during the year due to the sale of the Frazer Project by Equator Resources Limited to TUC Resources Limited. Equator Resources had been committed to exploring this project with significant expenditure from airborne geophysics, diamond, RAB and RC in 2010. However due to a change in company strategy Equator decided to sell the Frazer Project (including this tenement), to TUC Resources. TUC are actively and successfully exploring similar targets in the Rum Jungle-Pine Creek region.

The project review and sale process took much of 2011 (year 2 for this tenement) 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 the anniversary of this licence.

**1. INTRODUCTION**

1.1 Project Description

In 2011 TUC 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.

TUC is now reporting on the activities completed by Equator Resources Limited during year 2 of this licence.

1.2 Location

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 1 represents a regional location of the tenement.
Figure 1. Location plan of EL27746 (shaded green) within Acacia Project area (black outline).
2.0 Tenement Status

EL27746 was granted for a period of six (6) years in 2010 to expire on 24\textsuperscript{th} May 2016. The 91.33 sq km. (45 blocks) tenement area falls within various NT Freehold Land sections.

3.0 Regional Geology

EL27746 lies on the north-eastern margin of the Archaen Rum Jungle and Waterhouse basement complexes. These are overlain by Lower Proterozoic clastic and dolomitic units of the Namoona 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.

3.1 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 2. Local geology of the Acacia project area (EL27746 green hatched area).
4.0 Exploration Activities

Exploration on EL27746 was limited during the year due to the sale of the Frazer Project by Equator Resources Limited to TUC Resources Limited. Equator Resources had been committed to exploring this project with significant expenditure from airborne geophysics, diamond, RAB and RC in 2010. However due to a change in company strategy Equator decided to sell the Frazer Project (including this tenement), to TUC Resources. TUC are actively and successfully exploring similar targets in the Rum Jungle-Pine Creek region.

The project review and sale process took much of 2011 (year 2 for this tenement) resulting in no on ground exploration being undertaken on the tenement. The sale was completed in February 2012 and the tenement transfer was underway at the second anniversary of this tenement.

The exploration review of the Frazers Project, before the sale, highlighted the low level of historical exploration on this tenement and the potential for basemetal, uranium and REE mineralisation.
5.0 Conclusions / Recommendations

The tenement was owned by Equator Resources during the year and exploration was restricted due to the sale process. In the coming year TUC intends to review the entire project with respect to rare earth element, uranium, gold and base-metal potential with a view to drill testing priority targets in subsequent years.

EL27746 covers a large section of poorly explored stratigraphy believed to be similar to that found at its recently discovered Quantum REE deposit. TUC has developed and intends to apply an exploration model for REE mineralisation (based on Quantum) and for Iron Ore (based on Frances Creek).