# GIANTS REEF MINING LIMITED

# **GIANTS REEF EXPLORATION**

A.B.N. 58 009 200 346 58 PEKO ROAD TENNANT CREEK NT 0860 PO BOX 1244 TENNANT CREEK NT 0861

Telephone 08 8962 1330 Facsimile 08 8962 2900 Email: email@giantsreef.com.au Website: www.giantsreef.com.au

# **EXPLORATION LICENCE 8883**

**BLUEBUSH** 

# FOURTH YEAR RELINQUISHMENT REPORT

20 March 2004 - 19 March 2005

LICENSEE: GIANTS REEF EXPLORATION PTY LTD A.B.N. 009 200 346

AUTHOR:
D M CAMPBELL

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DISTRIBUTION:	
Department of Business Industry & Resource Development	TE
Central Land Council	
Giants Reef Exploration Pty Ltd	
Giants Reef Mining Limited	

# **SUMMARY**

Exploration Licence 8883 *Bluebush* and Exploration Licence 10402 *Amadeus* are in the Bluebush Project Area, one of a number of project areas flanking the Tennant Creek mineral field

Targets are large scale deposits of copper, lead, zinc, gold, silver and other base metals.

This report records the exploration work completed on the portion of no continuing interest of the relinquished area of EL 8883 during the fourth year of tenure, from the 20<sup>th</sup> March 2004 to the 19<sup>th</sup> March 2005

The quantitative/qualitative ranking, based on geological, geophysical & geophysical characteristics and other parameters covering work status, target type, land status and economics has down-graded ELs 8883 as "Non-Core B".

At the end of the fourth year of tenure EL 8883 was reduced from 224 to 112 graticular blocks. The relinquishment area of EL 8883 was considered by Giants Reef as unlikely to host a major base metals or base metals/precious metals deposits.

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## 1. INTRODUCTION

Exploration Licence 8883 *Bluebush* and Exploration Licence 10402 *Amadeus* are in the Bluebush Project Area, one of a number of project areas flanking the Tennant Creek mineral field

Targets are large scale deposits of copper, lead, zinc, gold, silver and other base metals.

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# 2. LOCATION

Exploration Licences 8883 is located between 20km and 40km west and south-west of Tennant Creek, on the Kelly (5658) and Tennant Creek (5758) 1:100 000 scale map sheets.

There are several access routes into the area covered by this Exploration Licence but the principal one at present is the dirt road that leaves the Stuart Highway about 6km south of Tennant Creek Town and heads west, passing through EL 10402 and EL 8883, to the Kunayungku community. From along this road, a number of station tracks and the service route along the Amadeus Basin to Darwin gas pipeline, can be followed to most parts of the area.

Figure 1 shows the Location of EL 8883, the Blue Bush Project Area and Surrounding Tenure.

## TENURE

EL 8883 covering 224 blocks was granted to Giants Reef Exploration Pty Ltd on the 20<sup>th</sup> March 2001 for a period of 6 years.

EL 8883 is within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station. EL's 8883 and 10402 are subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

# 4. GEOLOGY

## 4.1 Regional Geology

Papers contained in AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea), Volume 1, pp. 829-861 provide a good introduction to the regional geology and styles of gold-copper mineralisation of the area to the north of EL 8883 and EL 10402.

A more recent reference is the geological map with explanatory notes on the Tennant Creek 1:250,000 sheet released by Northern Territory Geological Survey in 1998, which includes a revised stratigraphy.

# 4.2 Local Geology

EL 8883 includes a number of lower Palaeoproterozoic inliers, which include both the Warramunga Formation (<2%) and the Junalki Formation (<5%)), however these comprise less than 7% of the total geology of the EL. There are also a number of younger Palaeoproterozoic inliers and these include volcano-sedimentary units of the Ooradidge Group. More than 70% of the EL includes granitic rocks of the Tennant Creek Granite, Cabbage Gum Granite or the Devil Suite granites. A number of prominent NW trending lineaments transgress all of these units.

In the central and southern areas, Cambrian and later sediments of the western fringe of the Wiso Basin form a concealed layer up to several tens of metres thick, lying on the older basement. Aquifers in this sequence are the source of the Tennant Creek town water supply.

The basement geology of the bulk of the area is barely known although the sparse drilling to date, including many Government test water bores and a number of previous company exploration holes, have revealed a variety of amphibolite-grade metamorphics, plus granites, intermediate and mafic intrusions and volcanics, throughout the area. In the northern part of EL 8883, dating of igneous and metamorphic drill cores has given early or lower Proterozoic ages. Many linear magnetic structures, which in some cases appear to be fault boundaries of identifiable lithological blocks, can be seen in the 1999 AGSO 200m line-spaced aeromagnetics over the region.

The west-central area of EL 8883 lies over a prominent and extensive regional gravity anomaly, which rises to a 19 milligal peak in this area. This is referred to as the "Bluebush gravity anomaly" and is the focus of Giants Reef's exploration in the area.

#### SUMMARY OF PREVIOUS WORK

# Year 1

Reconnaissance, rock chip sampling, geochemical analysis of old drill cores, ground water sampling and analysis, obtaining clearances from the local Native Title holders to conduct field activities, analysis and modelling of aeromagnetic data, a detailed helicopter-borne gravity survey followed up by ground traverses, drilling of three deep RC/diamond holes (BBRD-01, BBRD-02, BBRD-06) for a total of 1,732.1m at three residual gravity targets, assaying and petrographic studies. No significant results.

#### Year 2

Assessment of drill results from the previous year, geophysical interpretation, target and drill hole generation, ground water sampling and analysis, obtaining clearances from the local Native Title holders, analysis and modelling of aeromagnetic and detailed gravity data, drilling of nine reverse circulation holes for a total of 705m, assaying and petrographic studies of the drill cores, committee liaison meetings with the CLC, BHP Billiton progress meeting and a tenement review. No significant results.

#### Year 3

No on-ground exploration was conducted over the Licence during the year.

## Year 4

Although the review identified a number of magnetic anomalies within the EL which are indicative of Tennant Creek style gold-copper occurrences, the prospectivity of the EL to host economic gold/copper mineralisation was downgraded for the following reasons;

- a) Geological re-assessment of the EL demonstrates that less than 5 km2 of the 325.2 km2 contains the prospective Warramunga Formation, with the remainder including geology which has not been found to host significant mineralisation in the region. These include granites of the Tennant Creek Super suite, volcanic-sedimentary successions of the Ooradidge Group and volcanic-sedimentary sequences of the Junalki Formation. The area proposed for reduction is believed to contain no Warramunga Formation.
- b) Drill testing of the Bluebush gravity anomalies in the first two tenure years of the Licence (BHP Billiton Alliance) downgraded the potential of the gravity anomaly. A review of the drilling and geophysical data suggests that the source to the gravity anomalies is either:
- i) Intrusive complexes, considerably higher in density than the surrounding host rocks.
- ii) Deeper source that has not been intersected by drilling to date, however likely to be at depths between 1000 to > 2000m (refer to attached memorandum M. Cooper, 2005).

# Figure 2 shows the relinquished area

#### 6. REHABILITATION

All sample bags were removed from the drill site of BBRD-001, BBRD-002 and BBRD-03. All drilling rubbish was collected and taken to the Tennant Creek town dump. The drill holes have all been capped, plugged and buried, and the drill pads have been lightly skimmed and left to rehabilitate naturally over the wet season.

All RC drill hole sites within EL 8883 were rehabilitated one month after the completion of the drilling program and prior to the wet season. This rehabilitation work included the collection and removal of all "drilling rubbish" and loose plastic sample bags, cutting of the PVC collar pipe and cement "flower pot" plugging of each hole. A star picket with an aluminium tag next to each collar identifies the hole and number.

The topsoil and dead bushes have been raked back over the drill sites to encourage natural re-growth. The access tracks to these sites have been left as they are, for future visitors to use. Numerous photographs were taken during the initial clearing of the drill sites, during drilling of the RC holes and rehabilitation of the sites after drilling. These photographs will assist Giants Reef in monitoring the rate of drill site rehabilitation in the EL 8883 and EL 10402 area.

#### 7. CONCLUSIONS

The quantitative/qualitative ranking, based on geological, geophysical & geophysical characteristics and other parameters covering work status, target type, land status and economics has down-graded ELs 8883 as "Non-Core B".

At the end of the fourth year of tenure EL 8883 was reduced from 224 to 112 graticular blocks. The relinquishment area of EL 8883 was considered by Giants Reef as unlikely to host a major base metals or base metals/precious metals deposits.

DENIELLE CAMPBELL
TENEMENTS AND DRAFTING OFFICER

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