# **GRM**

# **GIANTS REEF MINING LIMITED**

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## **EXPLORATION LICENCE 9309**

SKIPPER HILL WEST

#### **SEVENTH ANNUAL REPORT**

29 November 2001 - 28 November 2002

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

> AUTHORS: S C RUSSELL J L CAHILL

February 2003

	SE53-14
DISTRIBUTION:	TENNANT CREEK 1:250 000
Department of Buisness, Industry and Resource Development	5658
BHP Billiton	KELLY 1:100 000
Central Land Council	5758
Giants Reef Exploration Pty Ltd	TENNANT CREEK 1:100 000
Giants Reef Mining Limited	

#### **SUMMARY**

Exploration Licence 9309 *Skipper Hill West* is on the northeastern margin of a major regional gravity high centred approximately 40km south-west of Tennant Creek.

The Licence was applied for under a joint venture between Carpentaria Gold Pty Limited and Giants Reef Exploration Pty Ltd, which ended in October 1996.

Exploration Licence 9309 is located in the Bluebush Project Area, one of a number of areas flanking the Tennant Creek mineral field which are being explored under the terms of Giant Reef's Alliance with Billiton Exploration Australia Pty Ltd. During 2001, Billiton's parent company merged with BHP to form BHP Billiton.

The majority of the Bluebush Project Area is within EL 8882 and EL 8883, but EL 9309 also contains a portion of the large Bluebush gravity anomaly and is therefore regarded as an important part of the Project Area.

This report records the exploration work done on EL 9309 during the seventh year of tenure, from 29<sup>th</sup> November 2001 to 28<sup>th</sup> November 2002.

Reverse Circulation drill hole SHRC-001 was positioned vertically to intersect a shallow-modelled magnetic anomaly that was identified using the NTGS aeromagnetic data purchased in 1998. This anomaly has previously been referred to by Giants Reef as Anomaly X.

The drill hole intersected weathered recrystallised hypersthene dolerite basement rock from 18m with slightly elevated magnetic susceptibilities readings collected from 60m to the end of hole. Anomaly X can be explained by the magnetic nature of the basalt and shallow depth of cover material. Geochemical assaying of SHRC-001 returned no significant results and no further drilling of this anomaly will be considered.

Anomalies D and the N14 prospect, referred to in Giants Reef's Fifth Annual Report on EL 9309, remain of interest as valid targets for future drilling in the northern part of EL 9309.

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#### 1. INTRODUCTION

Exploration Licence 9309 Skipper Hill West is on the northeastern margin of a major regional gravity high centred approximately 40km south-west of Tennant Creek.

The Licence was applied for under a joint venture between Carpentaria Gold Pty Limited and Giants Reef Exploration Pty Ltd, which ended in October 1996.

Exploration Licence 9309 is located in the Bluebush Project Area, one of a number of areas flanking the Tennant Creek mineral field which are being explored under the terms of Giant Reef's Alliance with Billiton Exploration Australia Pty Ltd. During 2001, Billiton's parent company merged with BHP to form BHP Billiton.

The majority of the Bluebush Project Area is within EL 8882 and EL 8883, but EL 9309 also contains a portion of the large Bluebush gravity anomaly and is therefore regarded as an important part of the Project Area.

This report records the exploration work done on EL 9309 during the seventh year of tenure, from 29<sup>th</sup> November 2001 to 28<sup>th</sup> November 2002.

#### 2. LOCATION

EL 9309 is centred approximately 23km south-west of Tennant Creek. It is located on the Kelly (5658) and Tennant Creek (5758) 1:100 000 scale map sheets.

Access is via an all weather unsealed road, which turns west off the Stuart Highway 6km south of Tennant Creek. Most of the Licence area is accessible from the Amadeus Basin/Darwin gas pipeline, which has 4x4 drive service tracks traversing the Licence area.

Figure 1 shows EL 9309 and surrounding tenements.

#### 3. TENURE

EL 9309, originally covering 40 blocks (129km²) was granted to Carpentaria Gold Pty Limited (70%) and Giants Reef Exploration Pty Ltd (30%) on 29<sup>th</sup> November 1995 for a period of 6 years.

In October 1996, Carpentaria withdrew from the Joint Venture and the registration of the transfer of Carpentaria's 70% equity to Giants Reef was effected on 13<sup>th</sup> March 1997.

A waiver of the reduction required at the end of Year 2 was granted enabling the retention of 40 blocks for the term of Year 3 to 28<sup>th</sup> November 1998. A further reduction on the 28<sup>th</sup> February 1999, halved the EL to 20 blocks (65km<sup>2</sup>).

On 12<sup>th</sup> November 1999, Billiton Exploration Australia Pty Ltd (Billiton) entered into an Agreement with Giants Reef whereby Billiton acquired approximately 7% equity in Giants Reef, in return for providing funding for the exploration, by Giants Reef, of four project areas in the Tennant Creek region. Exploration Licence 9309 is included, along with adjacent EL's 8882, 8883 & 10402.

The Licence is within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.

EL 9309 is subject to an Indigenous Land Use Agreement, signed in September 2000 with the Native Title holders of the Tennant Creek region represented by the Central Land Council.

During 2001, Billiton's parent company merged with BHP to form BHP Billiton.

Figure 2 shows the Licence area held in the seventh tenure year.

#### 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.

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

Most of the Exploration Licence is soil-covered and interspersed with areas of calcrete. Using the regional magnetics it is interpreted that rocks of the Palaeoproterozoic Warramunga Formation, which host most orebodies in the Tennant Creek region, underlie the northern portion of the Licence. The southern block of the Licence (Area 2) has no outcrop but is situated on a steep regional gravity gradient which rises to a 19 milligal peak centred approximately 10km to the southwest of Area 2. The geological reason for this gravity feature is not known.

#### 5. WORK DONE DURING THE YEAR

#### 5.1 Clearances from Native Title holders

Under the terms of Giants Reef's Indigenous Land Use Agreement (ILUA) with the Native Titleholders of the Tennant Creek region, it was necessary to obtain clearances from the Native Title holders before the field party for the planned RC drilling (Section 5.2) could enter the area. Assisted by the CLC, field visits were made to the survey area over two days, and the necessary clearances were given. One proviso was that the drilling field party would stay away from the outcrop at the Old Extension Mine and that no mature trees (any species) are to be disturbed by drilling activities or access track construction.

The clearance team recommended the use of the pre-existing town gas pipeline route for access to Anomaly X (Figure 3). These conditions did not present any real difficulties for the field operations.

The Central Land Council representing the traditional Aboriginal owners of the land approved the proposed drilling activities in late July 2002.

#### 5.2 RC Drilling

One site was selected for a shallow vertical drill hole in EL 9309 at Anomaly X (Figure 3).

Hole	Easting	Northing	Azimuth	Depth	Target	Notes
	(AGD84)	(AGD84)				
SHRC-001	399165E	7822673N	vertical	83m	Anomaly X	Drilled September 2002

The drilling contractor was Gomex Drilling, of Dry Creek, South Australia. The total amount of reverse circulation drilling was 83m and the samples were riffle split in 1-metre intervals on site and then sent to AMDEL Laboratory in South Australia for geochemical analysis. The 1m samples were composited into consecutive 2m samples prior to analysis by laboratory staff. All samples were assayed for Au by AMDEL method FA3, and for Cu, Bi, Fe, Ag, As, Cd, Co, Mn, Mo, Ni, Pb, Zn, Cr, P, Sb, and V, by AMDEL method IC2E. No significant geochemical anomalies were observed in the results.

Geological logging of SHRC-001 was completed from chip trays post drilling. In summary bedrock was intersected from 16m down-hole and consisted of weathered/saprolitic gabbro. As the rocks became fresher (>60m) the lithology appeared to be more like a dolerite with minor haematite "dusting" seen in some feldspars. A 2m-granodiorite vein was intersected from 71-73m however, the majority of rock identified during the drilling was unaltered dolerite/gabbro.

Geological logging was completed on site, using a Hewlett Packard 200LX palmtop computer and downloaded in the evenings. Downloaded geology data was then validated and printed out as a separate log sheet and then loaded into a Micromine database, along with collar, survey and assay data (Appendix 1).

Magnetic susceptibility of all drill chips, was carried out and recorded on the drill chip log using a Kappameter KT-5 Magnetic Susceptibility Meter (Appendix 1).

The lithology intersected coupled with the magnetic susceptibility of the drill chips from SHRC-001 is consistent with rocks of an intrusive mafic nature. No further drilling of this target is recommended.

#### 5.3 Petrography

After the drilling described in Section 5.2, one RC chip basement sample (76-78m) was sent for petrographic confirmation to Ian Pontifex and Associates Pty Ltd, Adelaide, to assist in rock identification and description.

The petrography and overall geochemistry suggested that the basement rock examined in SHRC-001 is recrystallised hypersthene dolerite with partly ophitic and partly recrystallised orthopyroxene, recrystallised clinopyroxene, clear plagioclase laths, biotite and opaque oxide. Some areas are highly altered to actinolite and sericite with clays after orthopyroxene. In other areas fresh rock passes into quartz-rich areas that seem to represent mafic pegmatites.

#### 5.4 Magnetic Susceptibility Review

Review of the magnetic susceptibility readings collected from SHRC-001 by consultant Geophysicist Frank Lindeman confirmed the presence of a magnetic rock unit intersected between 60m the end of the drill hole. Peak magnetic susceptibility values of  $12x10^{-3}$  SI units were recorded against a background of <0.5 to  $1.0 \times 10^{-3}$  SI units. Lindeman considered this down-hole response enough to explain the magnetic response and no further drilling of this anomaly will be considered.

#### 5.5 Alliance Meeting

A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2<sup>nd</sup> December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area and included drill hole SHRC-001. Information was presented to BHP Billiton representatives and a digital data was supplied to BHP Billiton. The minutes from the meeting were accepted as accurate, and were signed on the 16<sup>th</sup> December 2002 by Giants Reef and BHP Billiton.

#### 6. REHABILITATION

All sample bags have been removed from the drill site of SHRC-001. All drilling rubbish has been collected and taken to the Tennant Creek town dump. The drill hole was capped, plugged and buried, and the drill pad has been left to rehabilitate naturally over this years wet season. A field inspection will be made after the wet to determine if any further rehabilitation measures are required.

#### 7. CONCLUSIONS

Reverse Circulation drill hole SHRC-001 was positioned vertically to intersect a shallow-modelled magnetic anomaly that was identified using the NTGS aeromagnetic data purchased in 1998. This anomaly has previously been referred to by Giants Reef as Anomaly X.

The drill hole intersected weathered recrystallised hypersthene dolerite basement rock from 18m with slightly elevated magnetic susceptibilities readings collected from 60m to the end of hole. Anomaly X can be explained by the magnetic nature of the basalt and shallow depth of cover material. Geochemical assaying of SHRC-001 returned no significant results and no further drilling of this anomaly will be considered.

Anomalies D and the N14 prospect, referred to in Giants Reef's Fifth Annual Report on EL 9309, remain of interest as valid targets for future drilling in the northern part of EL 9309.

#### 8. EXPENDITURE

The proposed expenditure for the seventh year of tenure was \$20 000. Actual expenditure was as follows:

		\$
1.	Geology	2,953
2.	Geophysics	0
3.	Geochemistry	742
4.	Surveying	0
	Data integration	0
6.	Analytical	0
	Drilling	6,766
8.	Tenure maintenance	1,143
	Administration and Overheads	3.167
_	. Rehabilitation	53
	TOTAL	\$14.824

Total expenditure amounted to \$14,824. As the expenditure covenant was not met, an application for variation of the minimum expenditure accompanies this report.

#### 9. PROPOSED PROGRAMME AND EXPENDITURE FOR YEAR 8

	\$
Geology	1,000
Geophysics	500
assessment of geophysical data	
Analytical	6,000
assaying	
Drilling	10,000
RC percussion	
Rehabilitation	500
Tenure Maintenance	500
Administration and Overheads	1,500
TOTAL	\$20,000

Exploration programs can be affected by results, and while this is the proposed program and expenditure, specific activities may vary according to the results achieved.

S C RUSSELL SENIOR EXPLORATION GEOLOGIST JUSTINE CAHILL EXPLORATION GEOLOGIST

# GRM

KEYWORDS:

# **GIANTS REEF MINING LIMITED**

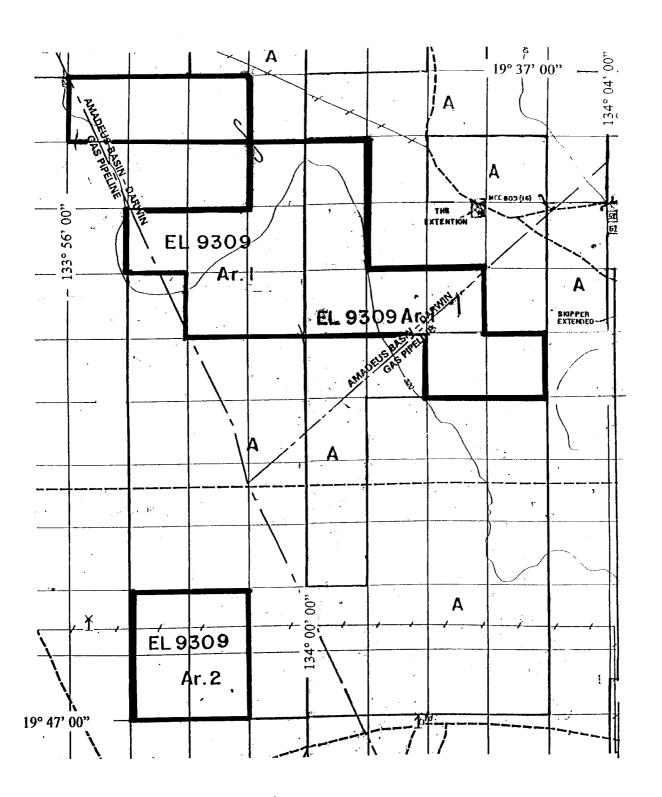
# HARD COPY REPORT META DATA FORM

ANOMILY X, ANOMILY D, N14,

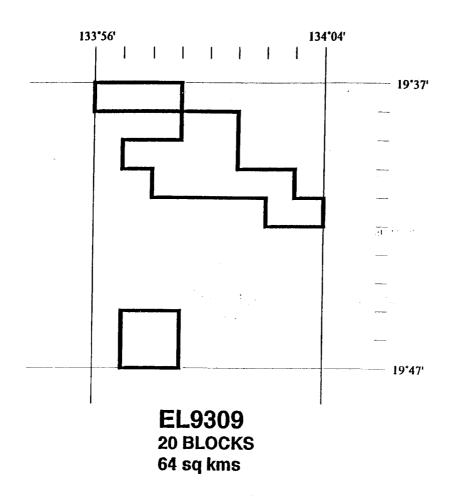
BLUEBUSH PROJECT, EL 9909, SKIPPER HILL

WEST, ANOMILY X, ANOMILY D, N14, SHRC-001

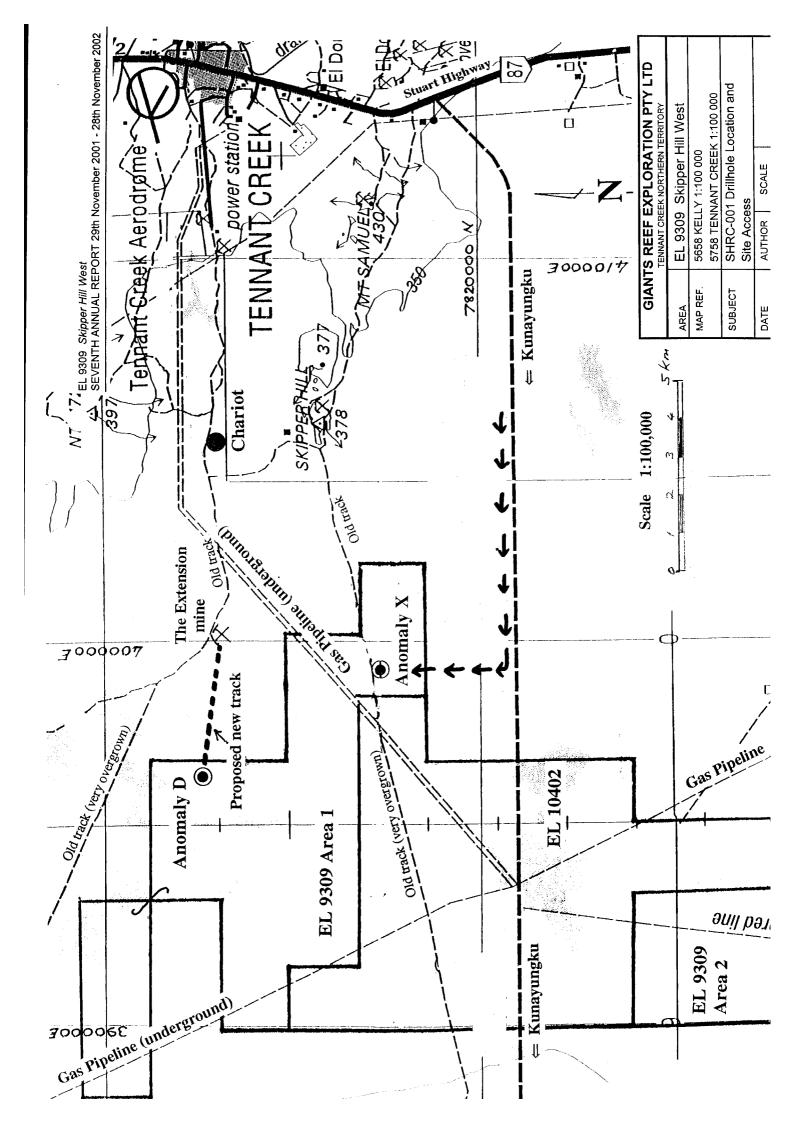
REPORT NAME:	EL 9909 <i>SKIPPER HILL WEST</i> SEVENTH ANNUAL REPORT 29 <sup>TH</sup> NOVEMBER 2001-28 <sup>TH</sup> NOVEMBER 2002
PROSPECT NAMES(s):	SKIPPER HILL WEST
GROUP PROSPECT NAME:	BLUEBUSH PROJECT AREA
TENEMENT NUMBERS(s):	EL 9909
ANNIVERSARY DATE:	29 NOVEMBER 2002
OWNER/JV PARTNERS:	GIANTS REEF EXPLORATION PTY LTD (Owners) BHP BILLITON (ALLIANCE).
AUTHOR(s):	J.L. CAHILL S.C. RUSSELL
COMMODITIES:	GOLD, COPPER, LEAD, ZINC, SILVER, BISMUTH
MAPS 1:250 000:	TENNANT CREEK SE53-14
MAPS 1:100 000:	KELLY 5658 TENNANT CREEK 5758
MAPS 1:25 000	
TECTONIC UNIT(s):	TENNANT CREEK INLIER
STRATIGRAPHIC NAME(s)	WARRAMUNGA FORMATION
AMF GENERAL TERMS:	
AMF TARGET MINERALS:	GOLD, COPPER, LEAD, ZINC
AMF GEOPHYSICAL:	MAGNETIC INTERPRETATION, MAGNETIC SUSCEPTABILITY
AMF GEOCHEMICAL:	SOSCEI TABILIT I
AMF DRILL SAMPLING:	SHRC-001
HISTORIC MINES:	
DEPOSITS:	
PROSPECTS:	ANOMENY ANOMEN'D MIA



GIANTS REEF EXPLORATION PTY LTD TENNANT CREEK NORTHERN TERRITORY				
AREA	EL 9309 Skipper Hill West			
MAP REF.	5658 KELLY 1:100 000			
	5758 TENNANT CREEK 1:100 000			
SUBJECT	Location and Surrounding Tenements			
	Extract DME MINING TENURE 52/4 & 52/5			
DATE	AUTHOR	SCALE		
NOV 2000		1:100 000	FIGURE 1	



GIANTS REEF EXPLORATION PTY LTD TENNANT CREEK NORTHERN TERRITORY				
AREA	EL 9309 Skipper Hill West			
MAP REF.	5658 KELLY 1:100 000			
	5758 TENNANT CREEK 1:100 000			
SUBJECT	EL 9309 Year 6 Licence Area			
	Extract DME SECOND SCHEDULE			
DATE	AUTHOR	SCALE		
FEB 1999	DBIRD		FIGURE 2	



#### **APPENDIX 1**

SKIPPER HILL WEST EL 9309

### MICROMINE DATA FILES

Blue\_coll.dat - collar file
Blue\_survdat.dat - survey file
Blue\_geol.dat - geology file
Blue\_samp\_sorted.dat - assay file