



# GIANTS REEF EXPLORATION

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## EXPLORATION LICENCE 23286

*CORRIDOR 3*

### FIRST ANNUAL REPORT

*30 September 2002 - 29 September 2003*

*LICENSEE:*

**GIANTS REEF EXPLORATION PTY LTD**

A.B.N. 058 436 795

*AUTHOR:*

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October 2003

#### DISTRIBUTION:

Department of Business Industry & Resource Development  
Giants Reef Exploration Pty Ltd  
Giants Reef Mining Limited

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SE53-14

TENNANT CREEK 1:250 000

5758

TENNANT CREEK 1:100 000

## SUMMARY

Exploration Licence 23286 *Corridor 3*, is located directly east of the TC8 mine and approximately 6km east of the currently developing Chariot mine.

This report records the exploration work completed on EL 23286 during its first year of tenure, from the 30<sup>th</sup> September 2002 to the 29<sup>th</sup> September 2003.

Targets are shallow haematite-ironstone related gold deposits.

Exploration Licence 23286 is located approximately 6km east of the non-magnetic haematite-rich Chariot gold mine, and less than 1km east of the TC8 mine. The EL and the TC8 and Chariot mines are positioned on the magnetic structural ridge extending from the Extension mine (300t @ 19.5g/t Au) to TC8 mine (80,680t @ 18g/t Au and 1.2% Cu). Consequently the EL and surrounding tenure has been subject to much interest by Giants Reef for its potential to host orebodies of a similar size and style of mineralisation as Chariot mine.

In the past tenure year Giants Reef have prioritised exploration along the Chariot trend line. This has involved detailed orientation and regional surveys, geophysical modelling of gravity targets and Reverse Circulation drill testing. No on-ground exploration was conducted over EL 23286.

The quite limited but detailed gravity survey appears to have added a new dimension to Giants Reef's understanding of the non-outcropping geology and the distribution of non-magnetic ironstone bodies within the survey area. The fact that non-magnetic ironstones, hosting gold mineralisation are known to exist (Chariot deposit), yet have not really been searched for previously in the Tennant Creek Goldfield, means that the potential for new discoveries is highly likely.

In September 2003, Giants Reef advertised for a Project Geologist to join the exploration team. This person will be responsible for the exploration of a number of tenements including EL 23286. In the next year of tenure it is expected that the coverage of the gravity survey will be extended east over the Licence area. Results of the gravity survey will then be assessed to identify any potential exploration target areas.

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## 1. INTRODUCTION

Exploration Licence 23286 *Corridor 3*, is located directly east of the TC8 mine and approximately 6km east of the currently developing Chariot mine.

This report records the exploration work completed on EL 23286 during its first year of tenure, from the 30<sup>th</sup> September 2002 to the 29<sup>th</sup> September 2003.

Targets are shallow haematite-ironstone related gold deposits.

## 2. LOCATION

EL 23286 is centred approximately 3km west of Tennant Creek Township, on the Tennant Creek 1:100,000 scale map sheet (5758).

Access to the Licence area from Tennant Creek Township is via Udall Road to Giants Reef's TC8 mine compound. Just before the TC8 mine compound station tracks lead south into the Exploration Licence.

Figure 1 shows the Licence and surrounding tenements.

## 3. TENURE

Exploration Licence 23286 *Corridor 3*, was granted to Giants Reef Exploration Pty Ltd on the 29<sup>th</sup> October 2002 for a period of six years. The EL covers an area of 2 graticular blocks (2.4 km<sup>2</sup>).

The Licence is within NT Portions 2079 and 4436, being vacant Crown Land.

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

## 4. GEOLOGY

### 4.1 Regional Geology

The regional geology of the Tennant Creek field has been detailed in many publications. 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 1998 Northern Territory Geological Survey second edition geological map and explanatory notes on the Tennant Creek 1:250,000 sheet, which includes a revised stratigraphy.

### 4.2 Local Geology

In the north of the EL, outcropping ridges of deeply weathered Palaeoproterozoic Warramunga Formation meta-sedimentary rocks host several mineralised ironstones in east trending axial plane structures, including the historical mine Gibbet (MC C461, C522-C524). From limited historical drilling, encouraging chlorite altered ironstones have been intersected at depth on the prospect, with local brecciation and quartz veining.

There are no outcrops of Proterozoic basement rocks within the area of reporting of EL 23286, which is blanketed by a layer of colluvium and aeolian sand up to seven metres thick. The Palaeoproterozoic Warramunga Formation is assumed to underlie all of the Licence area. This formation is host to all the magnetite-haematite (ironstone-hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield. The Chariot gold deposit which is located

approximately 6km west of EL 23286, is hosted by haematite dominated ironstone which is quite unique to the Tennant Creek goldfield.

## 5. WORK DONE DURING THE YEAR

### 5.1 Area of Reporting

EL 23286 consisting of 2 part- blocks (2.4 km<sup>2</sup>) was applied for by Giants Reef in August 2001, to cover an area of land within the TC8 mine (80,680t @ 18g/t Au and 1.2% Cu) to Extension mine (300t @ 19.5g/t Au) trend, directly east of the Railway Corridor. The land had been part of the Reservation from Occupation No. 22439, covering the Railway Corridor. On the 25<sup>th</sup> July 2001 the Reservation was revoked as the Railway Corridor was reduced to 800m wide, and the land covered by EL 23286 became available on the 1<sup>st</sup> August 2001.

Approximately one third of the Exploration Licence is covered by granted Mineral Claims located on the northern border extending east and west. The Mineral Claims are MC C522-C524 and C461 (*Gibbet/TC3*) owned by Santexco Pty Ltd (a fully owned subsidiary of Giants Reef), and cover the TC12/Muddo and TC3/Gibbet magnetic anomalies. Exploration conducted on the remaining area outside of the Mineral Claims in Exploration Licence 23286 is reported henceforth.

Figure 3 shows the area of reporting in EL 23286 and the Mineral Claims C522-C524 and C461.

### 5.2 Exploration Concepts

#### 5.2.1 Traditional Tennant Creek-type Ironstone hosted Au-Cu-Bi Orebodies

The close association with of Tennant Creek ironstones to host Au-Cu-Bi orebodies has enabled the use of magnetic surveys to locate concealed magnetite-rich ironstones. Some of the earliest mineral exploration aeromagnetic surveys in Australia were conducted in the Tennant Creek region, and to this day, magnetics has been the most important exploration tool.

The magnetic exploration technique traditionally used has assumed that mineralisation was intimately associated with magnetite-dominant ironstones, which is supported by the number of high grade orebodies discovered with this tool. Successful examples include Warrego (6.75Mt @ 7.6g/t Au, and 1.9% Cu), Juno (0.45Mt @ 56g/t Au) and Gecko (2.7Mt @ 1.1g/t Au and 4.3% Cu).

Numerous local and regional magnetic surveys have been completed over the Tennant Creek goldfield, primarily targeting ironstone masses within Warramunga Formation host-rock. Using these surveys, magnetic anomalies in structurally prospective trends have been identified and further explored.

#### 5.2.2 Tennant Creek-type Haematite hosted Au-Cu-Bi Orebodies

The discovery of the non-magnetic haematite-rich Chariot deposit in 1998 has resulted in a broader exploration model that allows for the presence of extensive ore grade mineralisation hosted within primary, non-magnetic (haematite-rich) ironstones. Discoveries by Giants Reef of high grade mineralisation associated with haematite dominant ironstone at Marathon and Billy Boy, although small, are further examples of this style of mineralisation.

Exploration for non-magnetic haematite ironstones are best identified using gravity surveys to identify dense rocks within Warramunga Formation sediments. At present there are no gravity maps for the Tennant Creek goldfield considered detailed enough to identify haematite targets.

Apart from its use in a very regional way, the gravity method has not been utilised to any extent in the search for haematite-ironstone related mineralisation in the Tennant Creek field. A small number of projects in the goldfield, in particular those explored by Western Mining Corporation, have been

covered with any detail. Most of these projects however, are not situated within the area considered by Giants Reef to hold economic mineralisation potential.

As an exploration tool the gravity method would appear to be the obvious way to proceed, but the use of this technique in the same manner as magnetics is prohibitive, principally because of its cost. At present, with the exception of the Falcon airborne gravity gradiometer, there is no technique available to identify (cost effectively), the relatively small bodies of haematite that could contain economic mineralisation. As, essentially the total Warramunga Formation is a potential to host gold-rich ironstone bodies, magnetic and non-magnetic, selective areas for haematite mineralisation require targeting for which gravity surveying is required.

The potential for the haematite ironstones to host mineralisation in non magnetic areas essentially opens up the whole Tennant Creek goldfield to new target review. Further target rationalisation would best be proceeded in areas where there is a coincident gravity and magnetic anomalism.

### 5.3 Literature Review

Exploration Licence 23286 is located approximately 6km east of the non-magnetic haematite-rich Chariot gold mine, and less than 1km east of the TC8 mine. The EL and the TC8 and Chariot mine are positioned on the magnetic structural ridge extending from the Extension mine (300t @ 19.5g/t Au) to TC8 mine (80,680t @ 18g/t Au and 1.2% Cu). Consequently the EL and surrounding tenure has been subject to much interest by Giants Reef for its potential to host orebodies of a similar size and style of mineralisation as the Chariot mine.

In the first year of a tenure a brief review of all current information over the EL was conducted. The review found that no obvious magnetic targets exist within the reporting area EL 23286, in contrast to the Gibbet/TC3 Claims, which enclose two prominent magnetic anomalies (TC3/Gibbet and TC12/Muddo).

In July 2002 a brief assessment of the prospectivity of the EL was conducted. This assessment highlighted the fact that previous exploration over the tenure had focussed on the targeting of magnetic anomalies to identify magnetic ironstone bodies. Giants Reef noted that limited gravity data exists over the tenure and concluded that the potential for new discoveries in EL 23286 are highly likely.

### 5.4 Tenement Review Ranking

An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in October 2002 assessed the future exploration potential of EL 23286. The review was based on the potential to discover high-grade gold mineralisation in both magnetic and haematite-dominant ironstones.

The location of the Chariot mine and TC8 gold mines to EL 23286 along the Chariot trend made this Exploration Licence a highly prospective target area due to its structural significance. Additionally the highly developed understanding of the local geology as a consequence of the developing Chariot resource, combined with the EL's location to existing mine infrastructure ranked this Licence area as a high priority exploration project area.

At the time of the review no target areas were identified within the reporting area of EL 23286.

### 5.7 Chariot Trend Line Exploration

In the past tenure year Giants Reef prioritised exploration along the Chariot trend line. This involved detailed orientation and regional gravity surveys, geophysical modelling of gravity targets and Reverse Circulation drill testing.

A second detailed gravity survey was conducted, based on the success of the first gravity survey. The second survey was conducted to extend the gravity coverage east of the Chariot mine out to the Railway corridor, which is on the western margin of EL 23286. No survey stations were taken within EL 23286.

The quite limited but detailed gravity survey appears to have added a new dimension to Giants Reef's understanding of the non-outcropping geology and the distribution of non-magnetic ironstone bodies within the survey area. In prospects where magnetic ironstones have been defined and also within completely non-magnetic regions, the gravity data has predicted the existence of several, (mainly shallow) haematite-rich ironstones which could be host to gold mineralisation. Remembering that the recorded density contrasts between the haematite-rich ironstone and country rock at the Chariot Deposit range between 1.0 and 2.0 gm/cc, several new bodies with similar density contrasts have been defined at relatively shallow depths within the survey tenure.

The fact that non-magnetic ironstones hosting gold mineralisation are known to exist, yet have not really been explored for previously in the Tennant Creek Goldfield, means that the potential for new discoveries are highly likely. The gravity method used over the Chariot trend line has given good encouragement and for the future it will, in some form, be a valuable exploration tool. Recommendations have been made to complete the gravity survey over the Chariot trend east and west which will include EL 23286.

Due to Giants Reefs exploration commitments within the last tenure year being focussed on the gravity survey tenure, no on-ground exploration was conducted over EL 23286.

In September 2003, Giants Reef advertised for a Project Geologist to join the exploration team. This person will be responsible for the exploration of a number of tenements including EL 23286. In the next year of tenure it is expected that the coverage of the gravity survey will be extended east over the Licence area. Results of the gravity survey will then be assessed to identify any potential exploration target areas.

## 6. REHABILITATION

No work was conducted over EL 23286 that has required any rehabilitation measures.

## 7. CONCLUSIONS

Exploration Licence 23286 is located approximately 6km east of the non-magnetic haematite-rich Chariot gold mine, and less than 1km east of the TC8 mine. The EL and the TC8 and Chariot mines are positioned on the magnetic structural ridge extending from the Extension mine (300t @ 19.5g/t Au) to TC8 mine (80,680t @ 18g/t Au and 1.2% Cu). Consequently the EL and surrounding tenure has been subject to much interest by Giants Reef for its potential to host orebodies of a similar size and style of mineralisation as Chariot mine.

In the past tenure year Giants Reef have prioritised exploration along the Chariot trend line. This has involved detailed orientation and regional surveys, geophysical modelling of gravity targets and Reverse Circulation drill testing. No on-ground exploration was conducted over EL 23286.

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## 8. EXPENDITURE

The proposed expenditure for the first year of tenure was \$3,000. Actual expenditure was as follows:

	\$ Year 1
1. Geology .....	462
2. Geophysics .....	0
3. Geochemistry .....	0
4. Surveying .....	0
5. Data integration .....	0
6. Analytical .....	0
7. Drilling .....	0
8. Tenure maintenance .....	655
9. Administration and overheads .....	186
10. Rehabilitation .....	0
<b>TOTAL</b>	<b>\$1,303</b>

Total expenditure amounted to an approximate \$1,303. As the expenditure covenant was not met, an application for variation of the minimum expenditure accompanies this report.

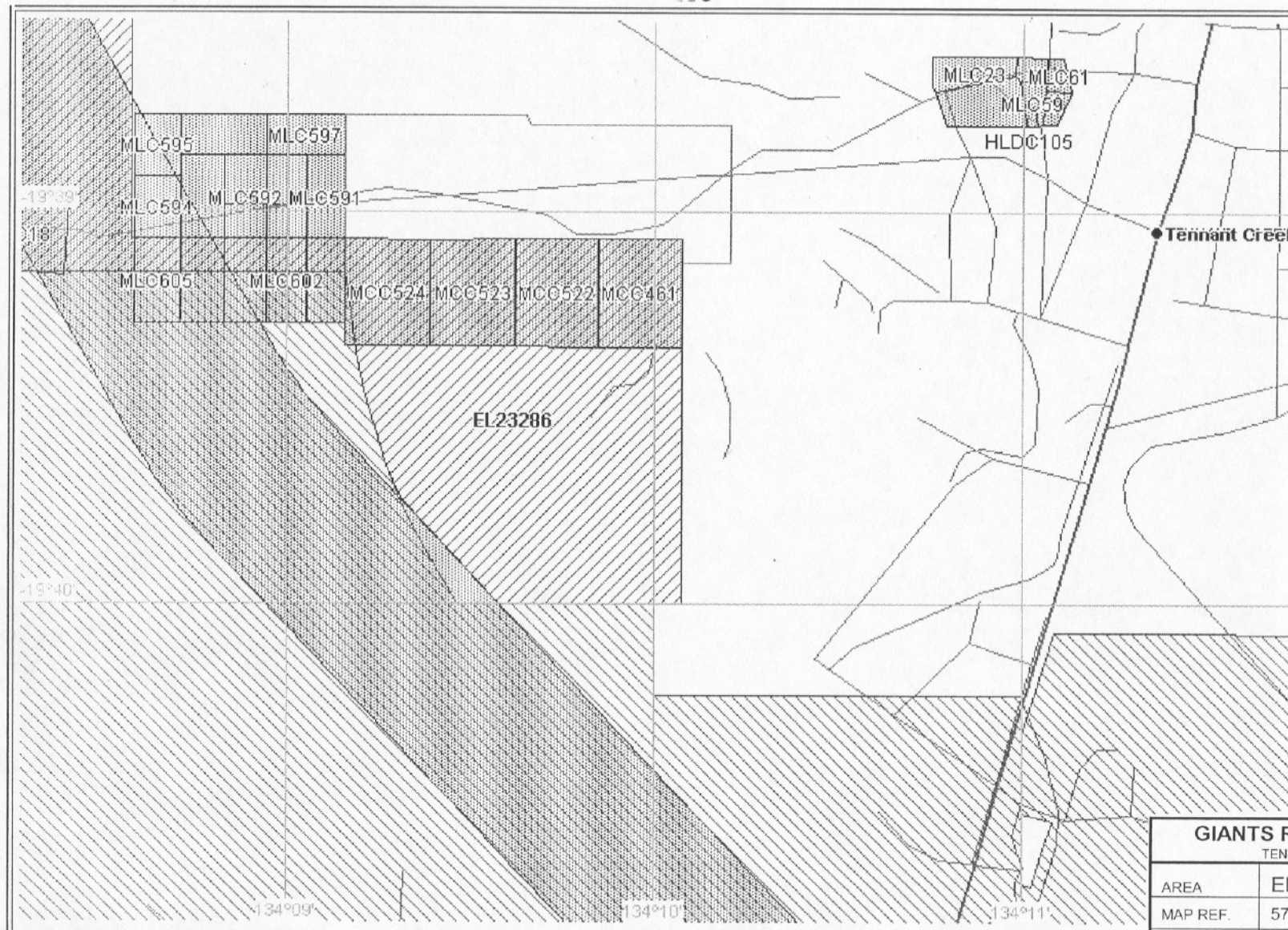
## 9. PROPOSED PROGRAM AND EXPENDITURE FOR YEAR TWO

In the second year of tenure Giants Reef intend to extend the coverage of the gravity survey east, over the Licence area. Results of the gravity survey will then be assessed to identify any potential exploration target areas.

	\$
1. Geology	1,000
<i>Assessment .....</i>	
2. Geophysics	1,500
<i>Detailed ground gravity survey .....</i>	
3. Geochemistry .....	0
4. Surveying .....	0
5. Data integration .....	0
6. Analytical .....	0
7. Drilling .....	
8. Tenure maintenance .....	500
9. Administration and overheads .....	0
10. Rehabilitation .....	0
<b>TOTAL</b>	<b>\$3,000</b>

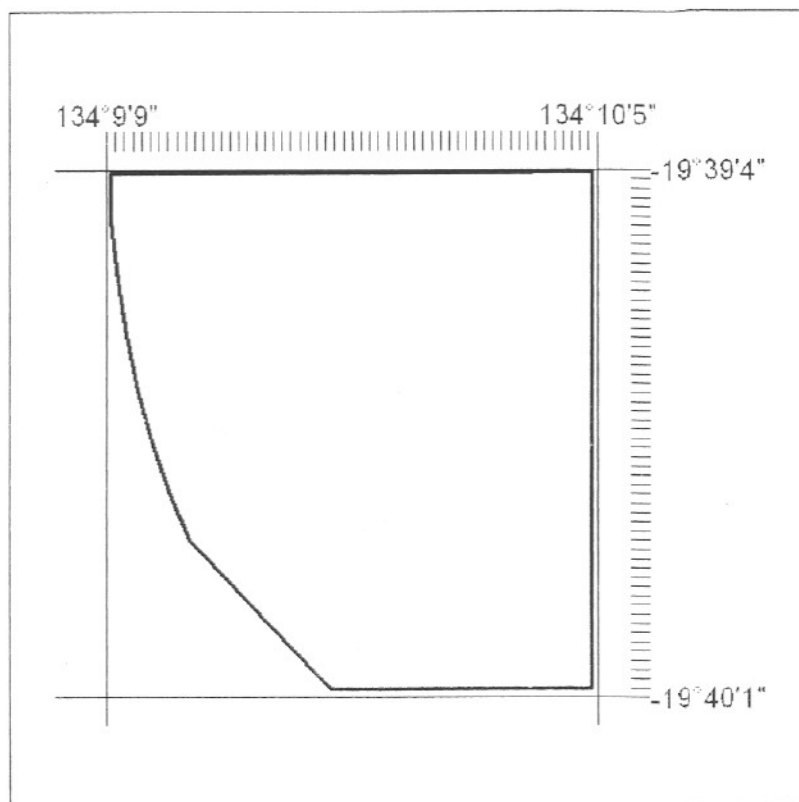
Exploration programs are affected by the results achieved as the work progresses, and while this is the proposed program and expenditure for the coming year, some changes may become necessary.

J L CAHILL  
EXPLORATION GEOLOGIST



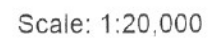
**GIANTS REEF EXPLORATION PTY LTD**  
TENNANT CREEK NORTHERN TERRITORY

AREA	EL 23286 CORRIDOR 3		
MAP REF.	5758 TENNANT CREEK 1:100 000		
SUBJECT	Location and Surrounding Tenements <i>Extract DME MINING TENURE 52/5</i>		
DATE	AUTHOR	SCALE	
OCT 2003	JLC		<b>FIGURE 1</b>



**EL23286**  
**2 BLOCKS**  
**2.4 sq kms**

GIANTS REEF EXPLORATION PTY LTD			
TENNANT CREEK NORTHERN TERRITORY			
AREA	EL 23286 CORRIDOR 3		
MAP REF.	5758 TENNANT CREEK 1:100 000		
SUBJECT	EL 10199 Year 2 Licence Area <i>Extract DME THIRD SCHEDULE</i>		
DATE	AUTHOR	SCALE	FIGURE 2
OCT 2002			



GIANTS REEF EXPLORATION PTY LTD			
TENNANT CREEK NORTHERN TERRITORY			
AREA	EL 23286 CORRIDOR 3		
MAP REF.	5758 TENNANT CREEK 1:100 000		
SUBJECT	AREA OF REPORTING		
DATE	AUTHOR	SCALE	
OCT 2003	JLC	1:20 000	FIGURE 3



# GIANTS REEF MINING LIMITED

## ***HARD COPY REPORT META DATA FORM***

REPORT NAME:	EL 23286 <i>Corridor 3</i> FIRST ANNUAL REPORT 29 <sup>TH</sup> OCTOBER 2002-28 <sup>TH</sup> OCTOBER 2003
PROSPECT NAMES(s):	CORRIDOR 3
GROUP PROSPECT NAME:	CHARIOT TO TC8 PROJECT AREA
TENEMENT NUMBERS(s):	EL 23286
ANNIVERSARY DATE:	29 <sup>TH</sup> OCTOBER 2003
OWNER/JV PARTNERS:	GIANTS REEF EXPLORATION PTY LTD
AUTHOR(s):	J.L.CAHILL S.C.RUSSELL
COMMODITIES:	GOLD
MAPS 1:250 000:	TENNANT CREEK SE53-14
MAPS 1:100 000:	TENNANT CREEK 5658
MAPS 1:25 000	
TECTONIC UNIT(s):	TENNANT CREEK INLIER
STRATIGRAPHIC NAME(s)	WARRAMUNGA FORMATION
AMF GENERAL TERMS:	
AMF TARGET MINERALS:	GOLD, BISUMITH
AMF GEOPHYSICAL:	GRAVITY ORIENTATION AND REGIONAL SURVEY,.
AMF GEOCHEMICAL:	
AMF DRILL SAMPLING:	
HISTORIC MINES:	THE EXTENSION, TC8, GIBBET
DEPOSITS:	
PROSPECTS:	TC3/GIBBET, TC12/MUDDO
KEYWORDS:	EL 23286, CORRIDOR 3, CHARIOT PROJECT, GRAVITY ORIENTATION AND REGIONAL SURVEY, TC3/GIBBET, TC12/MUDDO