GIANTS REEF MINING LIMITED

A.B.N. 71 058 436 794
1/26 IRVINE STREET 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 10129

ALEXANDER

SECOND YEAR RELINQUISHMENT REPORT

20 March 2001 - 19 March 2003

LICENSEE:

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

AUTHORS:

J L CAHILL
S C RUSSELL

June 2003

DISTRIBUTION:

BHP Billiton	☐	*TENNANT CREEK*	*1:250 000*
Central Land Council	☐		*SE53-14*
Department of Business, Industry and Resource Development	☐	*Flynn*	*1:100 000*
Giants Reef Exploration Pty Ltd	☐		*5759*
Giants Reef Mining Limited	☐		

SUMMARY

Exploration Licence 10129 *Alexander,* is being explored with EL 7810 *Hayward Creek*, and EL 10311 *Gibson Creek* as one of three contiguous tenements that Giants Reef refer to as the Alexander project area. EL 10129 was acquired to search for large base metal deposits possibly associated with a regional gravity anomaly centred in the area covered by the adjoining Licences.

The project is being explored under the terms of Giant Reef's Alliance with Billiton Exploration Australia Pty Ltd, who are funding the program. During 2001, Billiton's parent company merged with BHP to form BHP Billiton.

This report records the exploration work completed on the portion of no continuing interest (the relinquished area of EL 10129) to the end of the second year of tenure, on the 19th March 2003.

Geophysical assessments of the Alexander Gravity anomaly within the relinquished portion of EL 10129 did not identify any coincident gravity and magnetic features that could present drill targets. The Alexander Gravity anomaly is no longer regarded by Giants Reef as indicating possible iron oxide-rich lithologies that could host a large base metals deposit.

A gravity ridge survey concluded that the east-west gravity ridge that runs through EL 10129 was probably caused by a swarm of dolerite dykes. Groundwater sampling conducted in conjunction by Giants Reef with CSIRO gave no geochemical anomalies of interest.

Giants Reef concluded that the exploration potential for the discovery of major base metal or base metals/precious metals deposit within the majority of the EL had been downgraded. Additionally the relinquished tenure was viewed by Giants Reef as holding low exploration potential for traditional Tennant Creek type Au-Cu-Bi ironstone hosted mineralisation.

At the end of the second year of tenure the Licence area was reduced from 13 to 6 graticular blocks. Much of the relinquished area (approximately 25%) was identified as an Exclusion zones by the CLC under instruction from the Native Title holders of the Tennant Creek region. Under the ILUA Agreement no exploration is allowed within exclusion zones. The remaining relinquished tenure was viewed by Giants Reef as holding low exploration potential for major base metals, or traditional Tennant Creek type Au-Cu-Bi ironstone hosted mineralisation.

CONTENTS

FIGURES

APPENDIX

1. INTRODUCTION

Exploration Licence 10129 *Alexander,* is being explored with EL 7810 *Hayward Creek*, and EL 10311 *Gibson Creek* as one of three contiguous tenements that Giants Reef refer to as the Alexander project area. EL 10129 was acquired to search for large base metal deposits possibly associated with a regional gravity anomaly centred in the area covered by the adjoining Licences.

The project is being explored under the terms of Giant Reef's Alliance with Billiton Exploration Australia Pty Ltd, who are funding the program. During 2001, Billiton's parent company merged with BHP to form BHP Billiton.

This report records the exploration work completed on the portion of no continuing interest (the relinquished area of EL 10129) to the end of the second year of tenure, on the 19th March 2003.

2. LOCATION

EL 10129 covers an irregular tract of country spanning the Stuart Highway 40km north of Tennant Creek, on the Flynn 1:100,000 scale map sheet (5759). The Licence is the most southern EL in the project area.

Access from Tennant Creek is via the Stuart Highway and thence by various dirt roads and tracks along fence lines. However, much of the area is rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The tracks following the major creek systems become impassable during the wet season.

Figure 1 shows EL 10129, the Alexander project area and surrounding tenure.

3. TENURE

Exploration Licence 10129 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years.

On 12th November 1999, Billiton Exploration Australia Pty Ltd (Billiton) entered into an alliance 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 Licences 7810, 10129 and 10311 together constitute the Alexander Project Area.

The original area of EL 10129 totalled 13 blocks and part-blocks (39 km^2). At the end of the second year of tenure EL 10129 was reduced from 13 to 6 graticular blocks.

The Licence areas is within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. EL 10129 is 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, and Giants Reef.

Figure 2 shows the relinquished blocks and retained Licence area of EL 10129.

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 Tennant Creek regional geology and styles of gold-copper mineralisation of the Tennant Creek region.

More recent references are the Flynn 1:100,000 geology map and the 1:250,000 Tennant Creek geology map, with their Explanatory Notes, published by the Northern Territory Geological Survey in 1995 and 1999 respectively. These include a revised stratigraphy.

4.2 Local Geology

The Licence area is on the northern fringe of the established Tennant Creek goldfield. Except in a few localities, bedrock geology within the relinquished Licence area is not well revealed due to the discontinuous nature of sparse outcrops. Much of the relinquished Licence area is underlain by the predominantly felsic volcanics or volcanically derived sedimentary rocks of the Flynn Sub-group.

Quaternary sand and gravel covers most bedrock exposures.

5. WORK DONE DURING THE YEAR

5.1 YEAR 1

5.1.1 Introduction and Target Concepts

Exploration within EL 10129 is aimed at discovering large deposits of base metals along with substantial gold and/or silver, probably accompanied or hosted by large volumes of iron oxide minerals. Giants Reef was not applying a precise model to the target, but the style of occurrence was envisaged as being situated in iron oxide-rich lithologies and therefore likely to be associated with a regional or district-scale gravity anomaly and probably also with a magnetic anomaly.

The EL is well away from the established Tennant Creek goldfield, in the relatively younger and geologically distinct Ashburton Province, and any mineral deposits found here are likely to be very different from the well-known ironstone-related gold-copper deposits of the Tennant Creek Province.

Giants Reef's focus of exploration within the relinquished portion of EL 10129 is within the area of the major Alexander Gravity anomaly which is centred about the Stuart Highway, extending from EL 10129 through EL 10311 and north into EL 7810 (Alexander Project Area). This gravity anomaly is interpreted as being caused by dense, probably iron-rich, rocks and may be a favourable geological environment in which to be searching for sort of large-scale mineral deposits envisaged.

5.1.2 NTGS/AGSO Gravity Survey Assessment

Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the NTGS/AGSO gravity data over the Alexander project area including the relinquished area of EL 10129. This data came from the NTGS/AGSO gravity survey covering the whole Tennant Creek 1:250,000 sheet, plus some adjoining areas. The survey was conducted in mid-2001.

Mr Lindeman's assessment, dated 28 February 2002, deals with a number of areas both inside and outside the Alexander Project Area. An extract of the relevant paragraphs is reproduced here:

"The (Alexander project) ground holdings … were designed to cover a discrete N-S trending lozenge-shaped Bouguer gravity response as defined on the original gravity data. Although many of the gravity stations in the area are from the original regional 11 km station interval survey, the regional

stations, which define this anomaly, were augmented by a roughly N-S road gravity traverse. It had been hoped that any additional data would have produced a more confined and definite anomaly on which to focus.

The new 4 km spaced gravity data however failed to "deliver" for this anomaly, but appears to have developed a small response of some interest to the east of the original response.

The Bouguer gravity response in the Alexander tenements should be discussed at two levels; from the Bouguer gravity and residual Bouguer gravity perspectives. The new Alexander Bouguer gravity data divides the original response into (1) two separate responses plus (2) the new anomaly to the east.

The first anomaly is a >35 km NNE trending response, the southern half of which parallels, some 30 km to the NW, the eastern "leg" of the inverted U-shape of the Rosella Bouguer response (located about 25km to the west). The second is a small response centred at 412000E, 7889000N and which emanated from the northern end of the original response. Neither of these responses is compelling from a targetting perspective, as they appear to be more like part of the same regional response than being caused by possible ore deposits. The processed Bouguer residual for both these anomalies, while showing the anomalous responses discussed above without the anomalous background, also shows that the broad station density of mostly ~ 4 km, which defines this anomaly. It is my contention that it is this station density, rather than being due to a series of higher density "possible ore deposit geology" which is principally responsible for the individual anomaly peaks within this response. It is likely that more data would smooth out these responses into much more convincing looking regional responses. So despite the insufficient station spacing, the gravity data fails to enthuse enough to demand closer station follow-up, which would be necessary to define possible targets.

Centred at 425000E 78976000N, (a separate) small and discrete response is well located within the gradient of the large gravity response. It is defined by both some of the recent 4km-spaced data and several additional stations, probably read by Normandy. Despite this coverage, more data would need to be collected if it was thought that this anomaly maintained some potential.

Comparison of the three gravity responses above with the aeromagnetic data shows … that there is little correlation between the two data sets. The strongly magnetic sediment horizons are seen within and outside of the gravity anomalies although locally it does appear that there appears some relationship between magnetic and gravity responses. However it would be magnetic responses from other than from these sediments and coincident with gravity responses that could constitute an area of interest. It is therefore difficult to find an area in the Alexander holdings where interesting co-incident gravity and magnetic responses could be seen as a possible drill target. The anomaly described in (2) above is devoid of any coincident magnetic response, sediment or otherwise.

Although the Alexander project area contains a wide gravity station spacing, the broad nature of the anomalous responses, and the lack of convincing and related magnetic anomalism, leads me to the conclusion that no geophysical target exists and no further closer spaced data need to be considered. This conclusion is supported by the absence of any other geoscientific data which could provide some encouragement."

This observation downgrades the exploration potential of the Alexander Gravity Anomaly target, and the previous intention of drilling a test hole or holes in the centre of the residual Alexander Gravity Anomaly peak is now being reconsidered.

5.1.3 Gravity Ridge Traverses

An elongate residual gravity anomaly or 'gravity ridge' runs east-west through EL 10129. As part of a B.Sc. Honours project for a student (Margarita Norvill), at Curtin University of Technology, WA, a single 12km north-south gravity traverse was read across the gravity ridge within the relinquished portion of the EL. To cover sufficient distance north and south of the gravity ridge, the traverse line had to be extended into tenements not included in the Alexander project area.

The ridge line traverse was approximately 9km east of the Stuart Highway, along ~423500E, from 7860000N to 7872000N. Approximately 3.6km was in EL 10129: the remainder in other adjoining tenements. The line was cleared with a front-end loader.

Pegs were put in at 100m intervals along both lines, and optically levelled. The instrument used was a Scintrex CG-3/3M Autograv gravity meter.

The conclusion from the project (Curtin University Department of Exploration Geophysics Report 4/01; November 2001) was that the east-west gravity ridge through EL 10129 was probably caused by a swarm of dolerite dykes.

The full data set including the gravity readings along both traverse lines, and those sections of the lines outside the relinquished area, with co-ordinates, elevations and all other relevant data can be found in, "Exploration Licence 7810 Hayward Creek, Exploration Licence 10129 Alexander, Exploration Licence 10311 Gibson Creek: Second Combined Annual Report, 20 March 2002 to 19 March 2003." Authors J.L. Cahill & S.C Russell, (2003). Report to DBIRD.

5.1.4 Hydrogeochemistry

Giants Reef sampled the ground water from three cattle station water bores in the relinquished area of EL 10129. The water samples were analysed by the CSIRO in North Ryde, NSW. This work was done in conjunction with a much larger groundwater sampling program over the Bluebush Gravity Anomaly, located about 50km southwest of Tennant Creek.

The sampling was aimed at locating indications of mineralisation in the and around the regional Alexander Gravity anomaly. The sampling and analytical techniques used have been developed over many years by the CSIRO, in particular by Senior Principal Research Scientist Angela Giblin, who visited Giants Reef's Tennant Creek offices to discuss the project. Giants Reef's field work was conducted under her guidance.

An initial step was to find out the locations of all old bores and drillholes in the Alexander area. This was done by visits to the Water Resources Section of the NT Government Department of Lands, Planning and Environment in Alice Springs, where a database on disk was obtained, and photocopies made of a large number of geological logs of all the relevant drillholes and bores.

Sampling involved making readings at each site for ambient and sample temperature, acidity, conductivity, water depth, sample depth, GPS location and remarks on the water quality.

The sample bottles were sent to the CSIRO's laboratory at North Ryde, NSW for the sensitive analysis work.

None of the water samples displayed pH-redox conditions suggestive of sulphides or magnetite, or any indications of Cu, Pb or Zn in their source rocks. However, given that there were only three samples taken over a very wide area of the Alexander anomaly, these three samples cannot be expected to give a fair indication of the presence or otherwise of anomalous base metals somewhere in the district.

Appendix 1 contains the locations and analytical results of the three samples, and other relevant extracts of the report by CSIRO Senior Principal Research Scientist Angela Giblin.

5.1.5 Access Clearance from the Central Land Council

The Central Land Council (CLC) commenced land access clearance for the work proposed by Giants Reef in a program submitted under the ILUA in February 2001. At the end of the first tenure year the clearance work had not been completed.

Full details of work completed on the relinquished portion of EL 10120 during the first year of tenure can be found in the report by Giants Reef entitled, "Exploration Licence 7810 Hayward Creek, Exploration Licence 10129 Alexander, Exploration Licence 10311 Gibson Creek: Second Combined Annual Report, 20 March 2001 to 19 March 2002." Authors P.G. Simpson & S.C Russell, (2002). Report to DBIRD.

5.2 YEAR 2

5.2.1 Access Clearance from the Central Land Council

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 parties could enter the area.

The CLC and the traditional Aboriginal owners of the land conducted a land access clearance for the work proposed by Giants Reef in a program submitted under the ILUA in February 2001. The Alexander project area clearance was commenced in October 2001, but was interrupted and put on hold for a number of reasons. The Alexander clearance was completed in May 2002.

One large exclusion zone was identified within the relinquished area of EL 10129, covering a sacred sites and site complex, including two sites registered under the Sacred Site Protection Act. Exploration activities are not approved within the identified exclusion zone. Much of the western area (approximately 25%) in the relinquished portion of EL 10129 is an exclusion zone surrounding the Brumbreu waterhole.

The work program was approved by the CLC subject to a number of conditions. One provision was that all mature trees and stands or groups of trees must be avoided and protected. Additionally, any soakages, rockholes, archaeological material or sites, stone arrangements etc encountered during exploration are to be avoided

5.2.2 Exploration

As a result of the downgrading of the Alexander Gravity anomaly in EL 10129 for major base metal or base metals/precious metals deposits, the field activities proposed in the first year for the Licence were reprioritised. Giants Reef focused their 2002 field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

As a result no on ground exploration was undertaken over the relinquished portion of EL 10129 in the second tenure year.

5.2.3 Tenement Review

An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in September 2002 assessed the future exploration potential of EL 10129, and the prospects within the Licence.

The review recommended that Giants Reef substantially reduce the tenement holding of EL 10129 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation.

At the end of the second year of tenure Exploration Licence 10129 was reduced from 13 to 6 graticular blocks. After an integrated geological and geophysical assessment of EL 10129, Giants Reef concluded that the exploration potential for the discovery of major base metal or base metals/precious metals deposit within the majority of the EL had been downgraded. Additionally the relinquished tenure was viewed by Giants Reef as holding low exploration potential for traditional Tennant Creek type Au-Cu-Bi ironstone hosted mineralisation.

Taken into consideration was land access. Approximately 25% of the relinquished area was identified as an Exclusion zone by the CLC under instruction from the Native Title holders of the Tennant Creek region. Under the terms of the ILUA Agreement exploration is not permitted within exclusion zones, and hence this land holds no exploration value to Giants Reef.

6. REHABILITATION

No rehabilitation measures were required on the relinquished portion of EL 10129.

7. CONCLUSIONS

Tennant Creek-style orebodies are regarded as secondary targets in of EL 10129 as the focus of exploration, under the Strategic Alliance agreement with BHP Billiton, is to find major base metals or base metals/precious metals deposits.

Geophysical assessments of the Alexander Gravity anomaly within the relinquished portion of EL 10129 did not identify any coincident gravity and magnetic features that could present drill targets. The Alexander Gravity anomaly is no longer regarded by Giants Reef as indicating possible iron oxide-rich lithologies that could host a large base metals deposit.

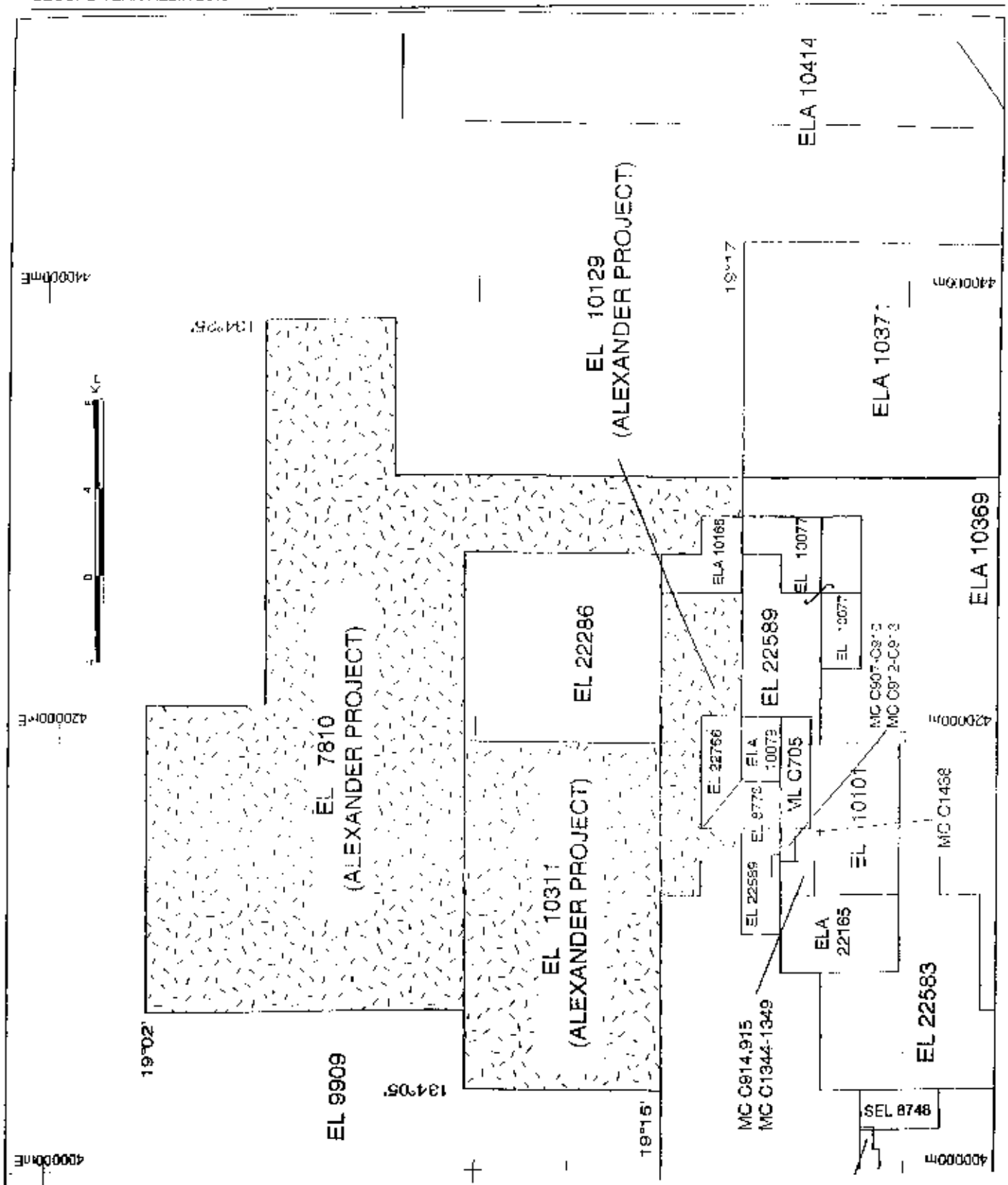
A gravity ridge survey concluded that the east-west gravity ridge that runs through EL 10129 was probably caused by a swarm of dolerite dykes. Groundwater sampling conducted in conjunction by Giants Reef with CSIRO gave no geochemical anomalies of interest.

Giants Reef concluded that the exploration potential for the discovery of major base metal or base metals/precious metals deposit within the majority of the EL had been downgraded. Additionally the relinquished tenure was viewed by Giants Reef as holding low exploration potential for traditional Tennant Creek type Au-Cu-Bi ironstone hosted mineralisation.

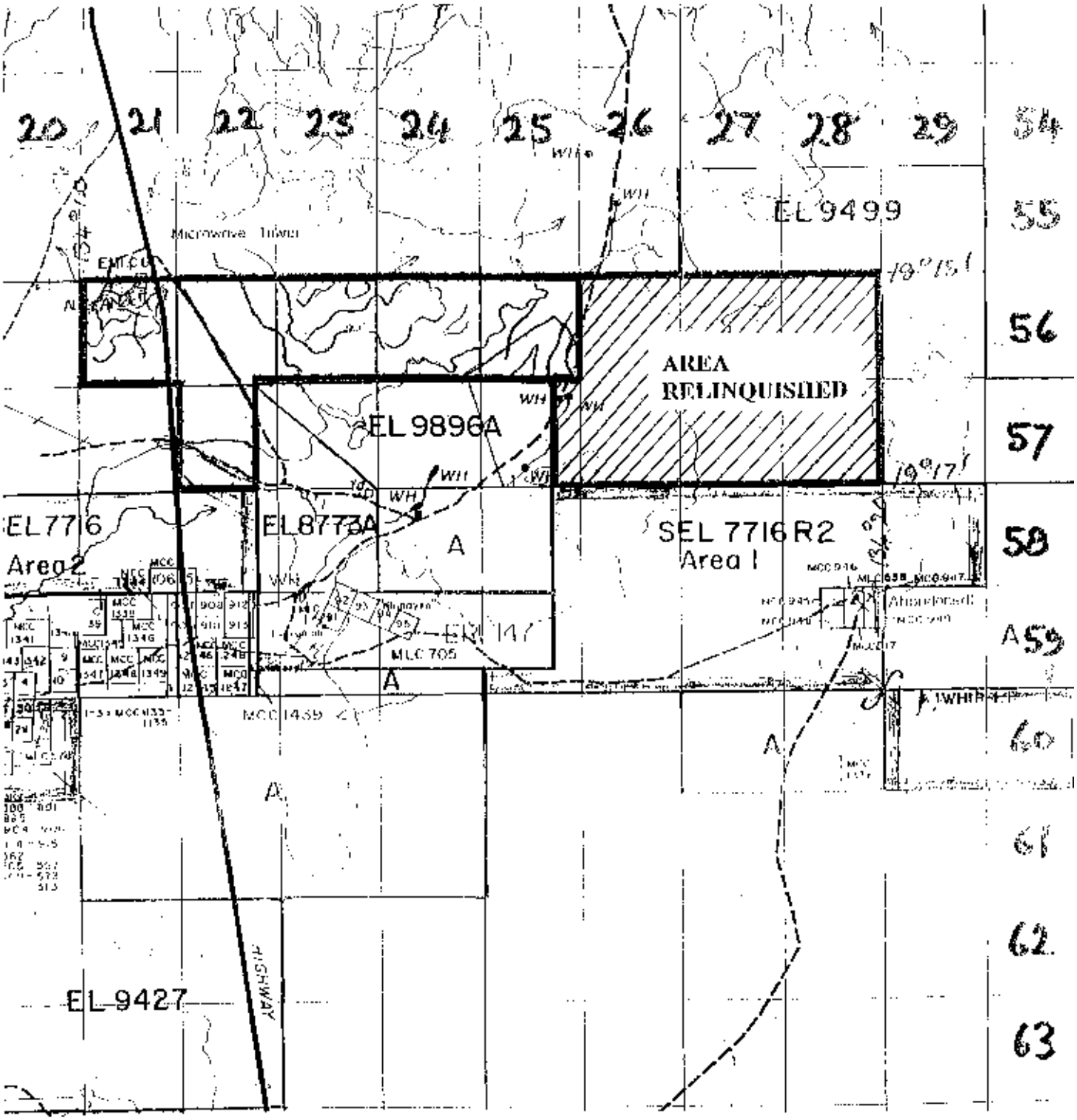
At the end of the second year of tenure the Licence area was reduced from 13 to 6 graticular blocks. Much of the relinquished area (approximately 25%) was identified as an Exclusion zones by the CLC under instruction from the Native Title holders of the Tennant Creek region. Under the ILUA Agreement no exploration is allowed within exclusion zones. The remaining relinquished tenure was viewed by Giants Reef as holding low exploration potential for major base metals, or traditional Tennant Creek type Au-Cu-Bi ironstone hosted mineralisation.

J L CAHILL
EXPLORATION GEOLOGIST

S C RUSSELL
SENIOR EXPLORATION GEOLOGIST



GIANTS REEF EXPLORATION PTY LTD TENNANT CREEK NORTHERN TERRITORY			
AREA	EL 10129 ALEXANDER		
MAP REF.	5759 FLYNN 1:100 000		
SUBJECT	**LOCATION OF EL 10129 AND ALEXANDER PROJECT AREA**		
DATE	AUTHOR	SCALE	
MAY 2002	SCR		**FIGURE 1**



AREA RELINQUISHED

GIANTS REEF EXPLORATION PTY LTD TENNANT CREEK NORTHERN TERRITORY			
AREA	EL 10129 – Alexander		
MAP REF.	5658 FLYNN 1:100 000		
SUBJECT	Retained blocks for Year 2		
DATE	AUTHOR	SCALE	FIGURE 2
MAR 2003	JLC	1:100 000	

APPENDIX 1

EL 10129 ALEXANDER

Locations and Analyses of Water Samples
&
Summary Note on Results from CSIRO

Exploration Indications from Groundwaters in GR24, 25 and 26.

Locations of these samples were north of the Tennant Creek region sampled in 1988. None of the 3 samples had pH - redox conditions that accorded with sulfides or magnetite in their source rocks. Groundwater in GR24 was much less saline, more acidic and oxidising than the other two samples. As such it would have carried significant concentrations of base metals were it from aquifers containing base metal minerals. However, measured values of Cu, Pb and Zn in all 3 samples, compared with calculated values, indicated the absence of any base metal mineral phases. Gold and As content of GR25 indicated that Au could be some where in the aquifers which sourced this sample. Furthermore, low levels of Au detected in GR24 and GR26, together with traces of Sb, may warrant consideration if other positive exploration indications are evident. Lithological indications included -

- Elevated U with relatively low F in GR25 and 26 were reminiscent of groundwaters from the U rich groundwaters at Short Range.
- Elevated potassic indicators, Rb and Cs in GR26 was also comparable with Short Range groundwaters but also of those from the Warrego mine.
- Potassic and sulfate indicator mineral barite was saturated in sample GR25.
- Carbonates, dolomite and strontianite were saturated in GR25 and 26.
- Only GR26 had the Si activity of less than $10^{-3.5}$ that has been observed in all groundwaters sampled from mineralised locations in the Tennant Creek region.

GIANTS REEF MINING LIMITED

HARD COPY REPORT META DATA FORM

REPORT NAME:	EL 10129 *Alexander* SECOND YEAR RELINQUISHMENT REPORT 20TH MARCH 2001-19TH MARCH 2003
PROSPECT NAMES(s):	EL 10129 – ALEXANDER
GROUP PROSPECT NAME:	ALEXANDER
TENEMENT NUMBERS(s):	EL 10129
ANNIVERSARY DATE:	19 MARCH 2003
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:	FLYNN 5759
MAPS 1:25 000	
TECTONIC UNIT(s):	TENNANT CREEK INLIER
STRATIGRAPHIC NAME(s)	WARRAMUNGA FORMATION
AMF GENERAL TERMS:	LITERATURE SEARCH
AMF TARGET MINERALS:	GOLD, COPPER, BISMUTH, LEAD, ZINC.
AMF GEOPHYSICAL:	GEOPHYSICAL INTERPRETATION, NTGS & AGSO GRAVITY RIDGE SURVEY
AMF GEOCHEMICAL:	GROUNDWATER SAMPLING
AMF DRILL SAMPLING:	
HISTORIC MINES:	
DEPOSITS:	
PROSPECTS:	
KEYWORDS:	ALEXANDER PROJECT, EL 7810, EL 10129, EL 10311 ALEXANDER GRAVITY ANOMALY