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## MINERAL LEASES C300-C303 SR 503 SHORT RANGE

### FINAL REPORT

16 February 1976 – 30 April 2003

*LICENSEE:*

**SANTEXCO PTY LTD**

A.B.N. 002 910 296

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*July, 2003*

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## SUMMARY

This report records the exploration work carried out on Mineral Leases C300-C303 SR 503 Short Range, during their 27-year term from the 16<sup>th</sup> February 1976 to the 30<sup>th</sup> April 2003.

Mineral Leases C300-C303 are located approximately 52km northwest of the Tennant Creek Township. The Leases are situated approximately 9km north northwest of the Warrego mine. Mineral Leases C300-C303 have previously been explored and reported with ML C22, C39-C41, C71-C76, C81-C84, C98-C108, C682 & C692 (*Explorer 5, Warrego*) and ML C158-C165 (*Warrego Gravel Pits*) to make up the Warrego tenements of the Navigator Reporting Group.

Mineral Leases C300-C303 have been held by a number of companies (ADL, Poseidon, Normandy and Santexco) and have had very little exploration conducted over them during their 27-year tenure period. Work conducted over Mineral Leases C300-C303 has included magnetic and gravity surveys, vacuum drilling, an environmental audit, literature reviews and assessments of prospectivity.

The SR 503 Leases cover a small, low amplitude circular magnetic feature, located in a broad band of complex magnetics. The magnetic signature in this area has been attributed to an aureole effect around the (young) Warrego Granite, rather than ironstone.

Very little on-ground exploration has been conducted over the Leases. Assessment of the regional magnetics highlights numerous, higher-intensity magnetic anomalies located proximal to the SR 503 anomaly that have historically been ranked higher in prospectivity.

Assessment by Giants Reef of the Mineral Leases C300-C303 ranked this area as possessing limited exploration potential for a shallow Au-only resource. The location of the Leases to the Warrego mineralisation and treatment plant was noted as prospective. However, the Leases are located directly over the NT gas pipeline, which would hinder any form of future in-ground exploration.

Final assessment of the prospectivity of the Leases did not identify any significant exploration potential over ML C300-C303, and concluded it was not necessary to retain the land under Mineral Leases. This, combined with Giants Reef's initiative to reduce the amount of tenements held by the company, Mineral Leases C300-C303 were surrendered on the 30<sup>th</sup> April 2003.

## CONTENTS

	PAGE
SUMMARY .....	i.
CONTENTS .....	ii.
1. INTRODUCTION.....	1.
2. LOCATION .....	1.
3. TENURE.....	1.
4. GEOLOGY .....	2.
4.1 Regional Geology.....	2.
4.2 Local Geology.....	2.
5. WORK DONE DURING THE TERM.....	2.
5.1 Previous Work .....	2.
5.2 Work Completed by ADL (1976-1984) .....	2.
5.3 Work Completed by Poseidon (1984-1996) .....	2.
5.4 Work Completed by Normandy (1996-2001).....	3.
5.5 Work Completed by Santexco (2001-2003) .....	4.
6. REHABILITATION.....	5.
7. CONCLUSIONS.....	6.
8. REFERENCES.....	7.

## FIGURES

1. Location of Mineral Leases C300-C303

## 1. INTRODUCTION

This report records the exploration work carried out on Mineral Leases C300-C303 SR 503 Short Range, during their 27-year term from the 16<sup>th</sup> February 1976 to the 30<sup>th</sup> April 2003.

Mineral Leases C300-C303 are located approximately 52km northwest of the Tennant Creek Township. The Leases are situated approximately 9km north northwest of the Warrego mine. Mineral Leases C300-C303 have previously been explored and reported with ML C22, C39-C41, C71-C76, C81-C84, C98-C108, C682 & C692 (*Explorer 5, Warrego*) and ML C158-C165 (*Warrego Gravel Pits*) to make up the Warrego tenements of the Navigator Reporting Group.

In producing this report, Giants Reef have endeavoured to find as much information as possible to record all the work done on these Mineral Leases over the 27-year period. However, the changes in ownership over that time, together with Giants Reef's unfamiliarity with the large database acquired as a result of the purchase of Normandy Tennant Creek Pty Ltd, means that there may be some unintentional omissions.

## 2. LOCATION

Mineral Leases C300-C303 are located approximately 52km northwest of the Tennant Creek Township on the Short Range 1:100,000 scale map sheet (5759).

Access to the Leases is gained via bush tracks extending north from the Warrego mine site. Alternatively, the cleared NT Gas pipeline track can be followed north from the sealed Warrego road.

The climate of the Tennant Creek district is mild and dry through most of the autumn to spring months. The summer period is hot with seasonal heavy rainfall between January and March making access within the Leases very difficult during these periods.

Figure 1 shows the Mineral Leases and surrounding tenements during the final year of tenure.

## 3. TENURE

Mineral Leases C300-C303 were granted to Nobelex NL., (an exploration subsidiary of Australian Development Limited) for a 21-year term on the 16<sup>th</sup> February 1976. ML C300-C303 form a contiguous block, with each Lease approximately 16 hectares and total approximately 64 hectares.

All the assets of Australian Development Limited (ADL) were fully purchased by Poseidon Gold Limited (Poseidon) in 1984, which were later purchased by Normandy Tennant Creek Pty Ltd (NTC) in 1996.

In December 1997, NTC was granted a renewal of the Leases for a further 10-years to expire on the 31<sup>st</sup> December 2006.

In June 2001, Giants Reef Mining Limited (Giants Reef) purchased NTC and all its assets, including Mineral Leases C300-C303. After the purchase, NTC was re-named Santexco Pty Ltd (Santexco), and is now a wholly-owned subsidiary of Giants Reef Mining Limited.

The Leases lie within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station.

Mineral Leases C300-C303 were surrendered by Santexco on the 30<sup>th</sup> April 2003.

## 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) give a good introduction to the regional geology and styles of gold-copper mineralisation of the area.

More recently, the regional geology of the Tennant Creek Inlier has been described in the 1:250,000 Tennant Creek geological map and its explanatory notes, published by the Northern Territory Geological Survey in 1999.

### 4.2 Local Geology

Mineral Leases C300-C303 cover the Palaeoproterozoic Warramunga Formation sedimentary siltstones, arenites and greywackes. The Warramunga Formation is host to virtually all the magnetite-haematite (ironstone-hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield. Most of the underlying Lease area is concealed by aeolian sands and Cainozoic cover.

Interpretation of regional geophysical data suggests that the Leases are located proximal to the edge of the Warrego Granite. The Warrego Granite was intersected in the most western line of a vacuum drilling program within ML C303. No occurrence of ironstone was noted in the drilling or at surface within the Leases.

## 5. WORK DONE DURING THE TERM

### 5.1 Previous Work

Nobelex explored the area under EL 376 between 1972-1975. An aeromagnetic survey was completed in 1973 to accurately define the characteristics of a broad band of magnetic features. The program defined three anomalies (SR 501, SR 502 & SR 503) of which only SR 503 was followed up. Exploration over SR 503 consisted of surveying, gridding and ground magnetics (100m x 50m spaced readings) to define the accurate location of the anomaly. This was completed in 1975, prior to the grant of the Leases in February 1976. All data is presented in Nobelex (1973, 1974 & 1975).

The area surrounding the Leases was explored under EL 5173 between 1990-1994 by Western Mining Corporation Limited and by Yandarino Mining NL. (Yandarino) under EL 9095 since 1995. Work undertaken by Yandarino included gridding and vacuum drilling. All results are presented in Murphy (1996) and Yandarino (1996).

### 5.2 Work Completed by ADL (1976-1984)

No exploration over the Leases by ADL was reported since the grant of the Leases in February 1976.

It is assumed by Giants Reef that the occurrence of numerous magnetic anomalies immediately north of Warrego prompted the exploration in this area by ADL.

### 5.3 Work Completed by Poseidon (1984-1996)

#### *Vacuum Drilling*

In 1996 the SR 503 Leases were evaluated with a prospect-scale, geochemical bedrock vacuum drilling program targeting near-surface haematite ironstones, shear hosted mineralisation or intrusive dolerite and or porphyry related mineralisation.

Drilling was undertaken at a grid spacing of 100m x 100m over the entire area of the Leases. A total of 50 holes for 458m were drilled on the Leases to the west of the gas pipeline to identify potential geochemical targets, and to compile a map of the covered lithologies. Weathered bedrock was logged and sampled for multi-element assays.

Bedrock samples peaked at 1ppb Au (2 spot highs), 62ppm Cu and 33ppm Bi. The values were all interpreted to reflect background in the sediments, with no coherent anomalism (Mouchet, 1996).

#### 5.4 Work Completed by Normandy (1996-2001)

Extensive exploration of EL's 6795, 7896, 8080, 8081, 8667 and 8668, and subsequent SEL 8814 was undertaken from 1992 to 1997 by NTC. These Licences collectively surround the SR 503 Leases. Exploration included ground magnetics, regional and infill bedrock vacuum drilling, rock chip sampling and RAB drilling. No anomalies considered worthy of detailed follow up were generated in the area of SR 503.

##### *Environmental Audit*

An environmental audit covering all historical disturbances in the Tennant Creek mineral field was undertaken in 1998. The audit located and detailed all occurrences of substantial disturbance including mine workings, tracks, dumps, drillholes, excavations, buildings and rubbish. No historic workings were identified within the Leases.

##### *Tenement Prospectivity Review*

A detailed review by NTC conducted over the Tennant Creek Leases including Mineral Leases C300-C303. Historical exploration information was compiled and all geophysical, geochemical and geological information was assessed. Results of the review included:

##### *Magnetics:*

*The magnetic signature of the SR 503 Leases is that of a small well-defined circular magnetic high with an amplitude of approximately 100 gammas, located on a slightly elongated regional feature. The anomaly is one of a cluster of numerous magnetic anomalies, which form a north south trending band for approximately 15km north of Warrego. The SR 503 anomaly is to the west of the main 'band' of higher intensity anomalies.*

*Peko, ADL and NTC have explored several of these anomalies and none have ever been attributed to ironstones. The magnetic signature in this area is due to an aureole effect around the (young) Warrego Granite, and drilling of several prospects in this band has confirmed the presence of disseminated magnetite. The magnetic signature is best viewed on the RTP, first vertical derivative, where a large bullseye feature is resolved into numerous semi-circular and elongate features enveloping the Warrego Granite.*

##### *Gravity:*

*The SR 503 Leases are situated on a broad north-south gravity gradient which reflects the contact between the Warrego Granite to the west (gravity low) and the Flynn Subgroup to the east (gravity high). The signature increases to the north east and is associated with the stratigraphic thickening on the Flynn Subgroup sediments, in turn overlain by (shallow water depositional) sediments of the Tomkinson Creek Subgroup. In a regional sense, the Leases occupy a similar position on the gravity gradient as Warrego, White Devil, Orlando, and Gecko mines.*

A full account of all exploration work conducted over Mineral Leases C300-C303 during their first tenure period can be found in the renewal report by Normandy for year ending 31<sup>st</sup> December 1996 (P. Mouchet, 1996).

A full account of all exploration work conducted over Mineral Leases C300-C303 by Normandy, can be found in the Annual reports by Normandy for year ending 25 March 1999 (P. Mouchet, 1999), year ending 25 March 2000 (V. Orton, 2000), and year ending 25 March 2001 (V. Orton, 2001).

#### 5.5 Work Completed by Santexco (2001-2003)

In June 2001, Giants Reef purchased NTC and all its assets, including Mineral Leases C300-C303.

##### *Literature Review*

A number of days were spent searching documents and literature belonging to the Santexco tenements including Mineral Leases C300-C303, purchased from NTC by Giants Reef. Very little tenure information for ML C300-C303 was located. The target rationale of ADL in pegging the Leases is unspecific and appears undocumented. There appears to be no record of a specific exploration model for the Mineral Leases.

##### *Internal Tenement Review*

In September 2002 an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities included a detailed assessment of all the Santexco tenements purchased from NTC. This assessment included an evaluation of the Warrego Leases, which included Mineral Leases C300-C303.

Assessment by Giants Reef of the Mineral Leases C300-C303 ranked this area as possessing limited exploration potential for a shallow Au-only resource. The SR 503 low-amplitude magnetic feature located within the Leases was acknowledged. Based on Giants Reef's understanding of the local geology, the SR 503 magnetic signature viewed as an aureole effect around the (young) Warrego Granite, and unlikely to be caused by ironstone.

The location of the Leases to the Warrego mineralisation and treatment plant was noted as prospective. However, the Leases are located directly over the NT gas pipeline, which would hinder any form of future in-ground exploration.

The review concluded that the Mineral Leases C300-C303 be recommended for surrender.

##### *Lease Surrender*

Based on the conclusions of the internal report, combined with Giants Reefs initiative to reduce the amount of tenements held by the company, Mineral Leases C300-C303 were surrendered on the 30<sup>th</sup> April 2003.

## 6. REHABILITATION

The vacuum, holes were filled, capped and covered over shortly after the completion of the last drill program in 1996. Sample bags were removed and the sites tidied with a front-end loader.

An Environmental Management Plan for Poseidon's rehabilitation strategies implemented over various areas, following completion of exploration of exploration programs was submitted to the Department of Mines and Energy (Fowler, 1993 & 1998). An environmental audit covering all historical disturbances in the Tennant Creek mineral field was undertaken by Normandy in 1998.

No further substantial disturbance activities have been undertaken on over Mineral Leases C300-C303 since 1996. The area has been left to vegetate naturally.



## 7. CONCLUSIONS

Mineral Leases C300-C303 have been held by a number of companies (ADL, Poseidon, Normandy and Santexco) and have had very little exploration conducted over them during their 27-year tenure period. Work conducted over Mineral Leases C300-C303 has included magnetic and gravity surveys, vacuum drilling, an environmental audit, literature reviews and assessments of prospectivity.

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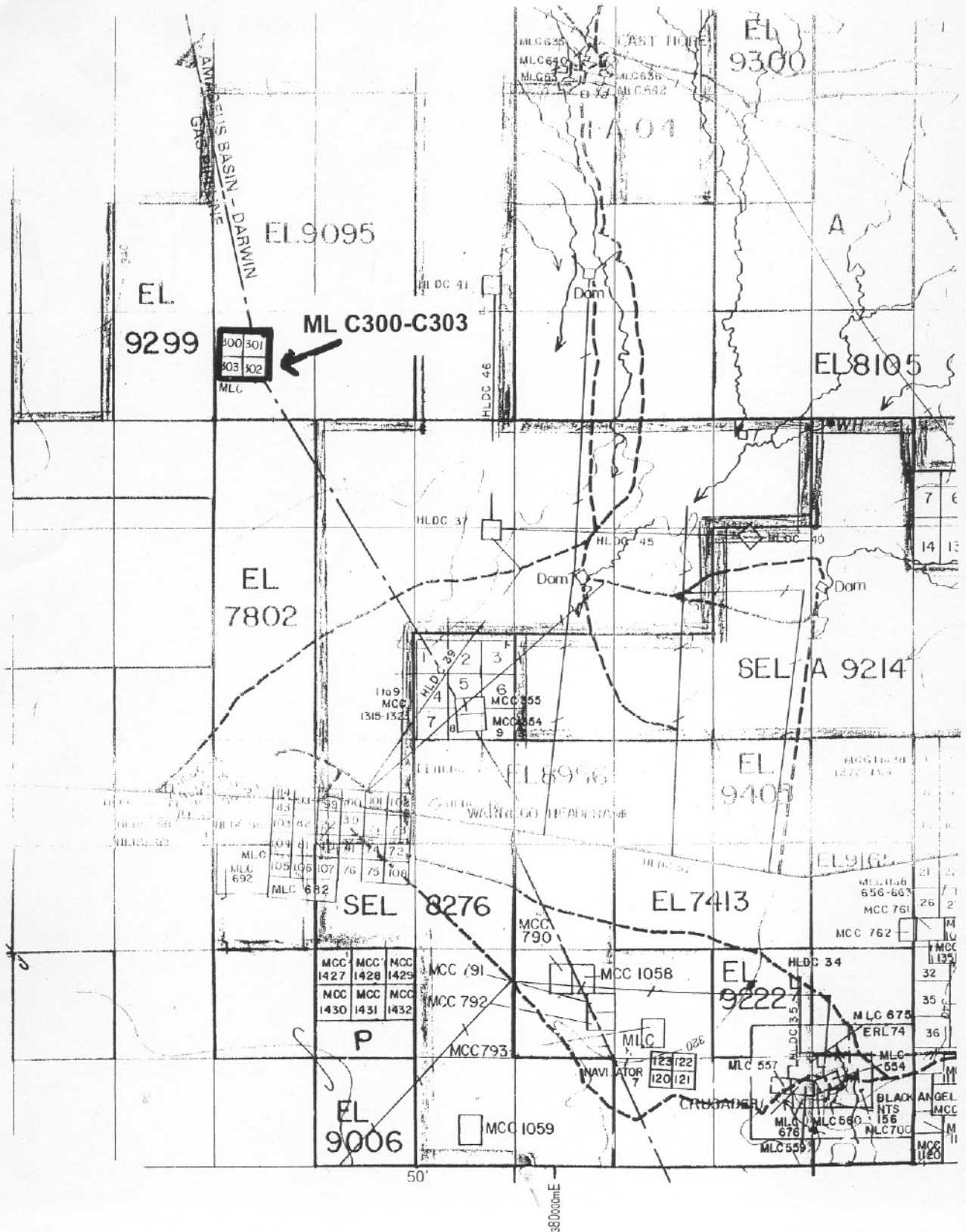
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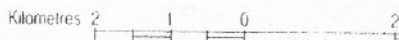
Justine Cahill  
*Exploration Geologist*

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SCALE 1 100 000



SANTEXCO PTY LTD TENNANT CREEK NORTHERN TERRITORY			
AREA	ML C300-C303 Short Range		
MAP REF	52/1 SHORT RANGE 1:100 000		
SUBJECT	Tenement Location		
DATE	AUTHOR	SCALE	
APR 2003	JLC		FIGURE 1