

# OPEN FILE



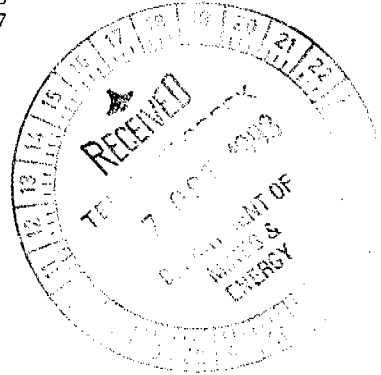
## POSEIDON GOLD LIMITED

A.C.N. 007 511 006

A PosGold Company

TENNANT CREEK OPERATIONS :  
PO Box 294, TENNANT CREEK  
Northern Territory 0861

Telephone : (089) 62 0399  
Facsimile : (089) 62 0377



### REPORT IN SUPPORT OF RENEWAL OF MINERAL CLAIMS C141 TO C144 INCLUSIVE

#### N33 NAIL PROSPECT

#### TENNANT CREEK DISTRICT 1:250,000 SHEET SE 53-14

#### VOLUME 1 OF 1

*Tenements renewed - Summary Report only -  
Full Data needs to be lodged some time*

*BGS*

**AUTHOR:** R J WORLAND  
EXPLORATION GEOLOGIST

**DATE:** OCTOBER 1993

**AUTHORISED BY:**

*[Signature]*

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Report No. 11023

*CR 94/420 vol 1 of 1*

A Member of the Normandy Poseidon Group



# POSEIDON GOLD LIMITED

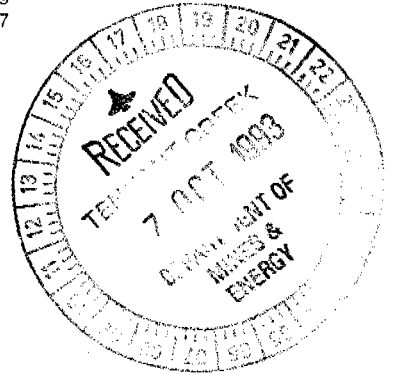
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CR 94/420  
VOL 1 of 1

# CONTENTS

## PAGE

LIST OF FIGURES	
LIST OF TABLES	
LIST OF APPENDICES	
1. SUMMARY	1
2. INTRODUCTION	2
2.1 Location and Access	2
2.2 Climate and Physiography	2
2.3 Tenure	2
3. PREVIOUS WORK	2
3.1 Historical Exploration	2
3.2 Recent Exploration	3
4. PROPOSAL FOR FUTURE ACTIVITIES	4
5. ENVIRONMENTAL AND REHABILITATION FACTORS	5

COMMODITIES: Gold, Copper

### LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Scale</u>
1	MCC 141-144 - Location Plan	1:100,000

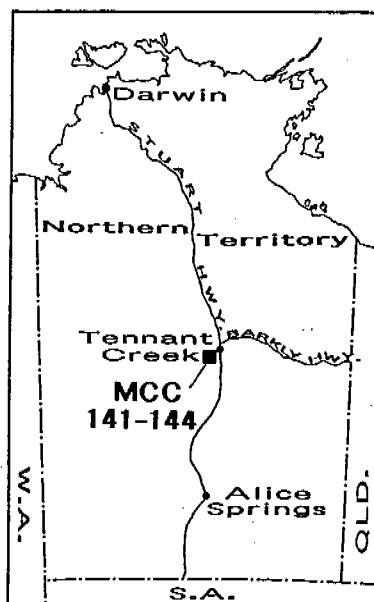
### LIST OF TABLES

<u>Table No.</u>	<u>Title</u>
1	Details of Tenure

### LIST OF APPENDICES

<u>Appendix No.</u>	<u>Title</u>
1	Bibliographic Data Sheet

REPORT NO: 11023  
TITLE: REPORT IN SUPPORT OF RENEWAL OF MINERAL CLAIMS C141  
TO C144 INCLUSIVE, N33 NAIL PROSPECT, TENNANT CREEK  
DISTRICT, NORTHERN TERRITORY  
AUTHOR: R J WORLAND  
DATE: OCTOBER 1993



## 1. SUMMARY

This report is submitted in support of renewal for Mineral Claims C141 to C144 inclusive, (N33 Nail Prospect) located approximately 17 km SW of Tennant Creek, refer Figure 1.

Mineral Claims C141 to C144 inclusive, cover a banded iron formation (and consequent magnetic anomaly) identified by Nobelex NL in 1969/70, and pegged by Australian Development Limited (ADL) in 1976. The area is viewed as prospective for Tennant Creek style Au-Cu-Bi mineralisation.

Lately, exploration by Poseidon Gold Limited (PosGold) has included geological field reconnaissance, a recent low-level aeromagnetic survey, geochemical vacuum drilling and a ground magnetics survey.

Mineral Claims C141 to C144 inclusive, are an important part of PosGold's regional exploration and prospect evaluation strategy. The Mineral Claims are part of an ongoing multidisciplinary appraisal of the entire Tennant Creek field. Locally the mineral claims form part of a greater area of interest generated from PosGold's regional exploration which identified the area as prospective for Tennant Creek style Au-Cu-Bi mineralisation. The area as a whole is to be investigated using a variety of modern exploration techniques.

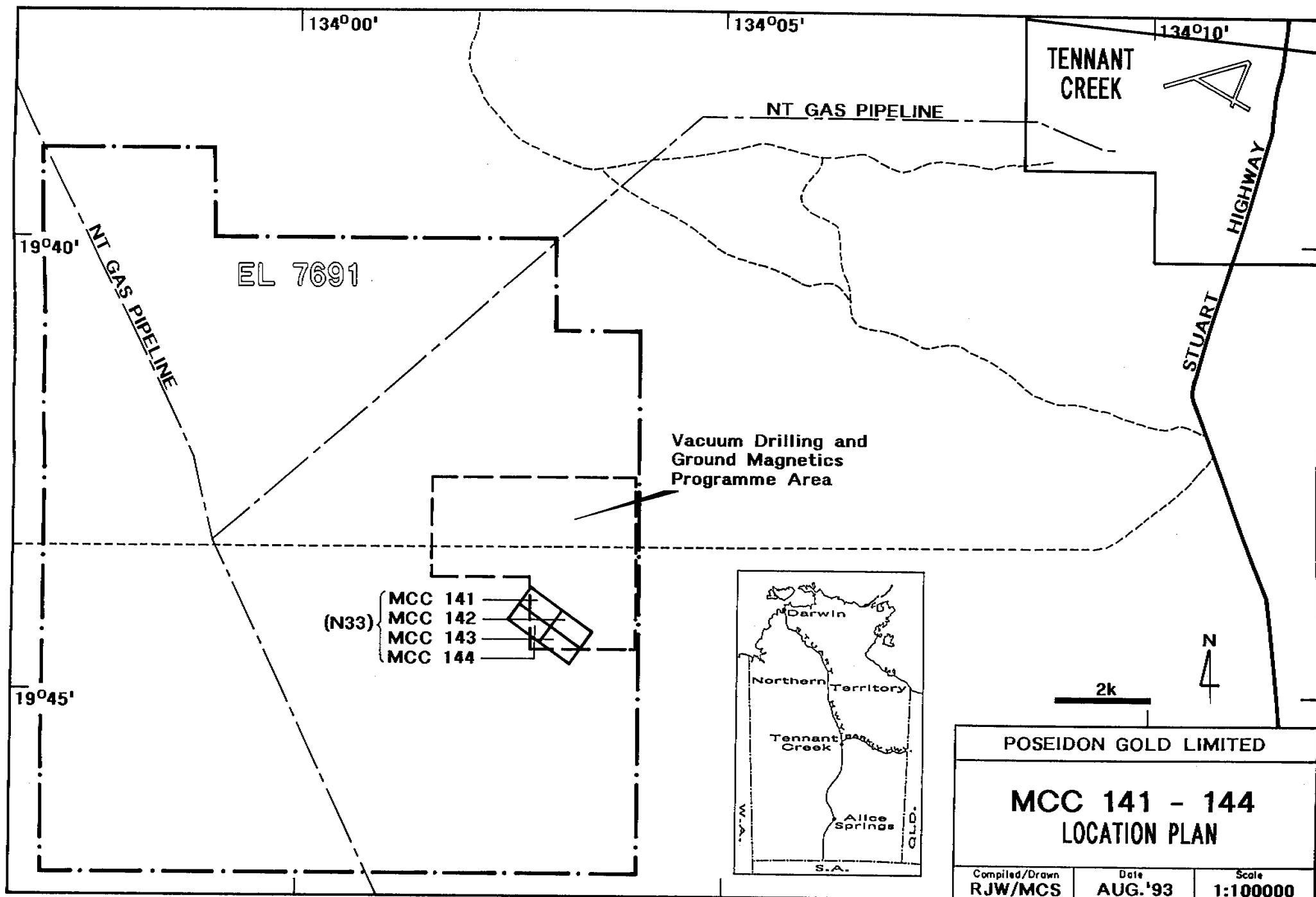


FIGURE NO. 1

## 2. INTRODUCTION

### 2.1 Location and Access

Mineral Claims C141 to C144 (N33 Nail Prospect) are located approximately 17km SW of Tennant Creek, refer Figure 1. Access is best gained 6.5 km south of the township via the Stuart Highway, thence 14.5 km west along a station track and thence 1 km south along a poorly formed track to the centre of the claims.

### 2.2 Climate and Physiography

The climate of the Tennant Creek area is mild to warm and dry throughout autumn, winter and spring. The summers are hot (often in excess of 35°C) with associated seasonal rainfall between December and March (538.8 mm rainfall in January and February, 1993) which frequently impedes field work programmes.

The physiography surrounding the mineral claims comprises a low lying ridge trending WNW which drains both NE and SW onto low lying plains with a shallow gradient draining to the west.

### 2.3 Tenure

The N33 Prospect was originally pegged by ADL (now PosGold) in April 1976 and granted in July 1976. The details of tenure for each claim are outlined in Table 1.

In accordance with section 90(2) of the Mining Act, this report describes the past mining and exploration activities as well as future work programmes.

Application is hereby made for a further renewal of MC C141 to C144 inclusive, for a period of 10 years, commencing 3 January 1994.

**TABLE 1: Details of Tenure**

MC	AREA (Ha)	DATE PEGGED	LAST INSPECTED	EXPIRY DATE	RENEWAL TO
C141	32	1/4/76	May 1987	2/1/1994	2/1/2004
C142	32	1/4/76	May 1987	2/1/1994	2/1/2004
C143	32	1/4/76	May 1987	2/1/1994	2/1/2004
C144	32	1/4/76	May 1987	2/1/1994	2/1/2004

## 3. PREVIOUS WORK

### 3.1 Historical Exploration

The N33 Prospect was one of several magnetic anomalies delineated by aeromagnetic surveys flown for Nobelex NL in their 1969/70 exploration programme. Follow-up work included geological mapping (1969/70), ground magnetics surveying (1970), auger drilling (1970) geochemical rock chip sampling (1970) and diamond drilling (1970).

The best results from the geochemical rock chip sampling were 0.8 g/t Au and 170 ppm Cu. The best assay results from diamond drillhole intersections were 1.2 g/t Au, 450 ppm Cu and 330 ppm Bi.

Results of this exploration concluded that the N33 Prospect covers a magnetite bearing zone of chloritised metasediments tested to 270 metres depth and over 1080 metres of strike length. The zone carries anomalous values in gold, copper and bismuth.

### **3.2 Recent Exploration**

Recent exploration by PosGold in the Tennant Creek field has focussed on regional appraisal and integration of many geological techniques including structural mapping, photogeological interpretation, geochemical surveys and modern regional geophysics. This has led to the acquisition of several new licences, including Exploration Licence 7691 (Moscow Prospect) which surrounds the N33 prospect.

The area surrounding the N33 Prospect is viewed as highly prospective due to the presence of known ironstones and magnetic features reflecting the possible presence of haematite-ironstone deposits within Warramunga Group rocks, buried beneath extensive aeolian sand and silt cover.

These encouraging features have led to work programmes over and around the N33 Prospect, including a modern low level aerial magnetic survey, field reconnaissance, geochemical vacuum drilling and a ground magnetic survey.

Reconnaissance of the N33 Prospect in early 1993 confirmed historical mapping of the area. The claims are dominated by a narrow WNW trending banded iron formation (BIF) which shows asymmetrical rotation structures. To the north pods of quartz-feldspar porphyry parallel the BIF-metasediment contact. To the south the topography drops away to a flat-lying sandy plain vegetated with spinifex, acacia bushes and sparse gum trees.

In 1992 an aerial magnetic survey was flown using a proton precession 30m SI Scintrex Cs vapour V201 magnetometer, with a sensor height of 60m along north-south lines spaced at 200m.

Data was processed by P Smith, Normandy Poseidon Limited Geophysicist, who removed the regional effect of the area from the observed data.

The resulting contour plan further enhanced the position and amplitude of magnetic features identified by the earlier magnetic surveys which had first delineated the N33 magnetic anomaly.

Early in 1993 a geochemical vacuum drilling programme was planned over most of the N33 Prospect, refer Figure 1, as well as other encouraging magnetic features to the north.



Vacuum drilling over the N33 Prospect intersected BIF, quartz-feldspar porphyry and haematitic siltstone and shales belonging to the Warramunga Group. Lithological logging of drill holes included details of aeolian cover, overburden and bedrock to aid the interpretation of results. Sampling consisted of 4kg of overburden for AAS analysis of Au, Cu, Bi, Fe, Mn, Pb, Zn, Ag, Mo and Cd after heavy mineral concentrating, and 2kg of bedrock sample for Au, Cu, Bi, Fe and Mn analysis. At present results have not been received for the samples taken within the mineral claims covering the N33 Prospect.

Currently PosGold is conducting a ground magnetics survey over most of the Nail 33 Prospect and immediately north over a portion of EL 7691, refer Figure 1. It is hoped that the additional data will improve anomaly definition for follow-up work including RAB/RC drilling.

#### 4. PROPOSAL FOR FUTURE ACTIVITIES

PosGold's multi-disciplinary regional exploration programme comprises the ongoing compilation, computerisation and analysis of all past exploration data on prospects including MC C141 to C144 inclusive. An exploration budget in excess of \$5.5 million for the 1993-94 financial year has been allocated for the ongoing completion of this work.

The N33 Prospect, located within EL 7691 currently held by PosGold, is viewed as highly prospective for Tennant Creek style Au-Cu-Bi mineralisation. Recent work on and adjacent to the N33 Prospect confirms the necessity to continue the momentum of the current exploration programmes.

Anticipated encouraging results for the geochemical testing over the N33 prospect will lead to more intense exploration in an effort to define mineralised targets. Exploration techniques proposed to be utilised include infill vacuum drilling, shallow RAB drilling and the integration of geological and definitive geophysical data.

The intended expenditure on exploration within MC C141 to C144 inclusive, for the next 12-24 months is briefly outlined below.

EXPENSE	AMOUNT
Employee Costs	\$ 1,500
Tenement Costs	\$ 1,500
Specialist Services	\$ 1,500
Operating	\$ 500
Drilling - Vacuum	\$ 500
- RAB	\$ 1,000
Assays	\$ 2,000
Overheads	\$ 1,000
	<hr/>
	\$ 9,500
	<hr/>

5. **ENVIRONMENTAL AND REHABILITATION FACTORS**

Poseidon Gold Limited has commenced an active rehabilitation programme over much of the Tennant Creek field. This commitment has been reinforced within the Normandy Poseidon Group with the appointment of a Group General Manager - Environment to oversee and implement the Group's guide-lines and objectives. In addition to this an Environmental Superintendent has been engaged at Tennant Creek to design and implement the Group's objectives throughout the Tennant Creek area.

As an example of the Group's commitment to environmental issues several active rehabilitation programmes are currently being undertaken in the Tennant Creek field. These include programmes at Nobles Nob, Eldorado, White Devil and Warrego.

An Environmental Management Plan for the company's Tennant Creek Operations has been submitted to the Department of Mines and Energy under separate cover. This plan details the strategies to be implemented over various areas following completion of exploration programmes and mining operations.

**APPENDIX ONE**

**BIBLIOGRAPHIC DATA SHEET**

# BIBLIOGRAPHIC DATA-SHEET

REPORT NUMBER	11023
REPORT NAME	REPORT IN SUPPORT OF RENEWAL OF MINERAL CLAIMS C141 TO C144 INCLUSIVE, N33 NAIL PROSPECT, TENNANT CREEK DISTRICT, NORTHERN TERRITORY
PROSPECT NAME(S)	MC's C141 TO C144 N33 NAIL PROSPECT
OWNER/JV PARTNERS	POSEIDON GOLD LIMITED
KEYWORDS	TENNANT CREEK REGIONAL GEOLOGY MAGNETIC SURVEYS STRUCTURAL GEOLOGY IRONSTONE BIF AERIAL MAGNETIC ANOMALIES N33 VACUUM DRILLING
COMMODITIES	GOLD, COPPER
TECTONIC UNIT	TENNANT CREEK INLIER
1:250,000 MAP SHEET	TENNANT CREEK SE 53-14
1:100,000 MAP SHEET	TENNANT CREEK 52/5