SECOND RELINQUISHMENT REPORT
FOR EXPLORATION LICENCE 8142
FOR THE PERIOD 23/8/93 TO 22/8/96
TENNANT CREEK DISTRICT, NORTHERN TERRITORY

CROWCALL PROSPECT
BARROW CREEK 1:250,000 SHEET SE 53-6

VOLUME 1 OF 1

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DATE: NOVEMBER 1996

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COMMODITIES: Gold, Copper
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1 SUMMARY

The area covered by the Barrow Creek Joint Venture (BCJV) is located approximately 200 kilometres south of Tennant Creek and is being explored for economic shear hosted and/or "Granites" style gold mineralisation. Exploration Licence 8142, situated in the central eastern portion of the Barrow Creek Group of tenements, consisted of eight graticular blocks, granted on 23 August 1993. In accordance with Section 26 of the Mining Act, four graticular blocks were relinquished at the end of the third year of tenure. This report details the work conducted by PosGold on the four graticular blocks relinquished for the period from 23/8/93 to 22/8/96.

Exploration completed by PosGold on the relinquished portion of the licence included a regional interpretation of BMR aeromagnetic data and a regional gravity survey.
2 INTRODUCTION

Exploration Licence 8142 which forms part of the Barrow Creek Group of tenements, is currently being explored for 'Granites' style and/or sheared hosted gold mineralisation under a joint venture agreement between Poseidon Gold Limited (PosGold), Normandy Exploration (Norex) and Yuendumu Mining Company (YMC).

Exploration carried out on the relinquished blocks of EL 8142 by PosGold, on behalf of the BCJV has included a regional gravity survey.

2.1 Location and Access

Exploration Licence 8142 is located approximately 200km south of Tennant Creek and 20km north-east of the Barrow Creek Hotel, refer Figure 1. Access is via the Stuart Highway and by station tracks.

2.2 Tenement Status

Exploration Licence 8142 consists of eight graticular blocks and was applied for and subsequently granted to PosGold on 23 August 1993. As part of the EL falls within the BCJV Area of Interest, the licence has been included under the Joint Venture Agreement.

At the end of the third year, in accordance with Section 26 of the Mining Act, EL 8142 has been reduced from eight graticular blocks to four graticular blocks.

2.3 Previous Exploration

Kewanee Australia Pty Ltd undertook a broad exploration programme between 1970-1974 within the Crawford-Osborne Range area. Several targets were delineated by a combination of airborne magnetics, radiometrics and EM survey techniques. Targets generated by this method were followed up with geological mapping, sampling and a combination of percussion, reverse circulation and diamond drilling. This work delineated a sub-economic Cu-Ni resource (Prospect D), but grade was considered too low to warrant further investigation, and the ground was relinquished in 1973.

Limited exploration was conducted by Australus Mining Co Pty Ltd during 1969, for base metal potential in the Crawford Range area. Pegmatites, granites and metadolerites were targeted with disappointing results.

Reconnaissance work over EL 8142 was carried out by PosGold Limited during 1993. This included reconnaissance geological mapping and interpretations of regional BMR aeromagnetics (Figure 2).

3 GEOLOGICAL SETTING

3.1 Regional Geology

Biotite/muscovite-quartz schists of the Bullion Schist Formation are the oldest rocks identified in the Barrow Creek area. Accompanied by discontinuous lenses of amphibolite/metadolerite, these comprise the Arunta Inlier. Deformation and regional metamorphism to upper greenschist facies took place between 1810-1750 Ma (Black, 1981).
Unconformably overlying these rocks are the Lower Proterozoic Hatches Creek Group, consisting of shallow marine sediments and felsic to mafic volcanics. The Hatches Creek Group can be subdivided into a lower and upper unit, the first made up of immature sandstones and pelites, while the upper unit comprises more mature cross-bedded arenites and siltstones.

Following deposition, the entire sequence was folded about NW trending axes and metamorphosed to upper greenschist facies. Later intrusion of both the Arunta basement and the Hatches Creek Group granitoids took place around 1660 Ma (Blake et al., 1987).

A long erosional period followed with subsequent weathering during the Tertiary to produce silcrete and ferricrete horizons. A thin veneer of Quaternary sands and soils overlays the area.

3.2 Local Geology

Mica-quartz schists to moderately metamorphosed sediments are the dominant lithologies. A series of mafic rocks included metadolerites to metadacites run north-south through the central portion of the area. Massive granite intrudes the sediments to the west.

4 EXPLORATION UNDERTAKEN DURING THE PERIOD 23/8/93 TO 22/8/96

The relinquished blocks of EL 8142 have been investigated by an exploration programme which has included a regional interpretation of BMR aeromagnetic data and a regional gravity survey.

4.1 Regional Gravity Survey

A regional gravity survey of PosGold's Barrow Creek leases was carried out to further define possible areas that may represent an equivalent to the Bullion Schist. The Crowcall Exploration Licence was included in the survey to help interpret the aeromagnetics in order to delineate targets below the alluvial cover. Figure 3 represents the Crowcall regional gravity from the combined BMR and PosGold stations.

5 CONCLUSIONS AND RECOMMENDATIONS

Exploration of the relinquished blocks of EL 8142 has been undertaken using a combination of geological reconnaissance mapping, interpretation of regional BMR aeromagnetic data and a regional gravity survey. The work indicates that the majority of the relinquished area consists of deep alluvial cover with granite/pegmetite bedrock lithologies. These rock types are not considered prospective for "Granites" style and/or shear hosted gold mineralisation. Consequently, further exploration of these blocks is not warranted.
DATA COLLECTION

Gravity Meter: LGR G295
Elevations: Barometric
Accuracy 0.2 metres

BMR Base: Barrow Creek Post Office
Operator: P. Walton

DATA PROCESSING

Meter to Mgaals: 2250, 2398.64, 1.06618
BMR Grav base: Barrow Creek Post Office
978590.94 mgals
Subtract DC: 970,000 mgals from Obs.Grav.
Reduction: Bouguer
Density 2.2 g/cc
Gridding: 500m

Contour Interval: 1 mgal
6 REFERENCES

APPENDIX ONE

BIBLIOGRAPHIC DATA SHEET
REPORT NUMBER 96101

REPORT NAME SECOND RELINQUISHMENT REPORT FOR EXPLORATION LICENCE 8142 FOR THE PERIOD 23/8/93 TO 22/8/96, BARROW CREEK DISTRICT, NORTHERN TERRITORY, CROWCALL PROSPECT

PROSPECT NAME(S) EL 8142
CROWCALL PROSPECT

OWNER/JV PARTNERS POSGOLD LIMITED
YUENDUMU MINING COMPANY

KEYWORDS GRAVITY SURVEY

COMMODITIES GOLD, COPPER

TECTONIC UNIT ARUNTA INLIER

1:250,000 MAP SHEET BARROW CREEK SF53-6 (64)

1:100,000 MAP SHEET 62-4