Exploration Licence 23845

Tennant Creek  1:250,000

1st Relinquishment Report

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September 2006
**SUMMARY**

Exploration Licence 23845 is located 20 kms east of Tennant Creek township and wholly owned by Sitzler Savage Pty Ltd comprising four graticular blocks. A report recording the exploration work carried out by the licensees during the reporting period November 4, 2004 – November 3, 2005, this being the second year of tenure has been previously submitted. A 50% mandatory reduction in area is required under the Mining Act. Based on geophysical and geological interpretation, it is recommended that the two blocks to be relinquished are those numbered SE533197J and SE533197N. This report details the exploration work carried out on the two blocks recommended for relinquishment.
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INTRODUCTION

Exploration Licence 23845 is wholly owned by Peko Rehabilitation Project P/L comprising four graticular blocks. A 50% mandatory reduction in area is required under the Mining Act. Based on geophysical and geological interpretation, it is recommended that the two blocks to be relinquished are those numbered SE533197J and SE533197N.

This report details the exploration work carried out on the two blocks recommended for relinquishment.

LOCATION

The Licence is located 20 kms east of Tennant Creek township with a dirt station track following closely along the southern boundary of three of the graticules, figure 1. Several small workings/mapped mineral occurrences surround the licence including Tunnel, Black Boy, Red Terror, Desert Gold and New Hope but no workings or mineral occurrences are known within the licence.

Figure 1  EL 23845 location plan

Access is along the sealed Peko-Nobles Nob road then almost due east along the station track from Nobles Nob.

TENURE

The EL covers four graticular blocks with a total area of 12.93km². The licence was granted for six years from November 4, 2003.

GEOLOGY

Regional
The reader is referred to AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea, Volume 1, pp 829-861, and Report 11, Gold Deposits of the Northern Territory by the NTGS, 1999 pp 47-57 to gain a good introduction to the regional geology and mineralisation of the Tennant Creek region.
The target style of mineralisation on the licence is typical of Tennant Creek which is believed to be a result of mineralised hydrothermal fluids, usually passing along a shear zones and reacting with Proterozoic iron oxide rich sediments of the Warramunga Formation and precipitating out Au-Cu-Bi sulphide mineralisation. The main characteristics of this style of mineralisation are a compact ore body within a magnetite host with distinct mineralogical zoning. This zoning is generally shown as a high grade gold core with a copper/bismuth capping. Later tectonic movements may modify the structure.

Local
The NT Geol Survey 1:100,000 scale mapping shows the majority of the licence covered by Proterozoic sediments of the Lower Hatches Creek Sandstone. This unit conformably overlies other finer grained Proterozoic sediments of the Warramunga Formation comprising of greywacke, shale, siltstone and hematitic shales. It is these older finer grained sediments that host most of the known mineralisation in the area, including the Tunnel, Black Boy, Red Terror, Desert Gold and New Hope workings/mineral occurrences as well as the main mines at Tennant Creek including the Peko, Juno and Nobles Nob. No mineralisation or workings are known to exist on this Exploration Licence.

Figure 2 shows the geology of the area around EL 23845.

Figure 2 Local geology.

WORK DONE ON THE TWO BLOCKS RECOMMENDED FOR RELIQUISHMENT

Data Integration
Tenure and geoscientific data compilation of from all available sources for all Peko Rehab tenements was commenced. For the area covered by this licence this has included NT Geol Survey geological mapping and tenement maps.

A search was commenced for all open documents covering all previous exploration work carried out over the licence by earlier workers. The reports identified that cover areas that intersect or cover EL 23846 are listed in table 1.
EL 4536
Geoepoka – Worked on EX199 prospect to 1-2kms south, Red Terror 1km west of EL. No follow up
recommended, relinquished.

EL 9358
Giants Reef – Rock chip and geophysics, no focus on EL 23845 area

EL 8173
1994-0559
Roebuck Resources, North Flinders Mines – Drilling, geochemistry, aeromagnetics - no focus on EL
23845 area

EL 7274
Poseidon Gold Limited – After evaluating data surrendered portion covered by EL 23845 in 1993,
retained remaining areas.

ATP 2093
1971-0046
Mat Exploration, Westmoreland Minerals, Paringa Mining and Exploration- no significant mineralisation
found- no focus on EL 23845 area.

Table 1. Listing of former EL/ATPs covering part or all of EL 23845 with Company Reports

All available regional geophysical data was compiled and anomalous areas identified by Southern
Geoscience Consultants over all the Peko Rehab tenements in the Tennant Creek region including
EL23845. The data sets available and studied were as follows:

- Geoscience Australia and NTGS gravity databases for the Tennant Creek area.
- NTGS/GA supplied aeromagnetic and radiometric data covering the Tennant Creek 1:250,000
  sheet.
- Shuttle Radar DEM from NASA.

Most of the data listed above did not directly cover EL 23845 however the regional gravity data
indicated a gravity low over the EL interpreted as underlying granite and that there is a strong
possibility that the structures hosting the Red Terror-Black Boy and Comstock-New Hope deposits
may pass through part of the EL.
**AREA TO BE RELINQUISHED**

Based on geophysical and geological interpretation, it is recommended that the two blocks to be relinquished are numbers SE533197 & and SE533197N and that the retained are of EL 23845 be composed of two blocks, SE 533197P and SE 533198L as shown on Figure 9.

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**Figure 9: 1st Relinquishment – EL 23845**