GBS GOLD AUSTRALIA PTY LTD

ANNUAL EXPLORATION REPORT
ON MLN 41
FOR PERIOD ENDING 31st December 2009
MOLINE
NORTHERN TERRITORY

Mount Evelyn: 250,000
Randford Hill 1:100,000

Distribution:-

1. DOR Darwin, NT
2. Crocodile Gold Australia, Darwin
3. Crocodile Gold Australia, Brocks Creek

CGA Report No: PC/BJV/10-09

Zia U. Bajwah
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MLN 41 is a small tenement which is located about 5 km NW of the Moline Gold Field. The MLN was applied for to cover North Evelyn base metal prospect and was granted in 1969 for 21 years. It covers 8.9 hectares, and is surrounded by EL 22970. M. Teelow is the tenement owner and GBS Gold Australia (liquidated) acquired the rights to explore MLN 41 and other tenements also held by M. Teelow until it went into voluntary administration on 15 September 2008.

The tenement is situated in the northern Part of Mount Evelyn 1: 250 000 sheet (Pine Creek Orogen), which is characterised by open to tight, upright N to NW-trending folds within the Palaeoproterozoic meta-sedimentary and volcanic rocks. MLN 41 and surroundings is host to gold and base metal mineralisation. Geological setting of the area shows that tenement and surroundings (EL 22970, GBS Gold Australia Manager) has significant potential for gold and base metal mineralisation. Presence of the Koolpin Formation and Allamber Springs Granite further point towards the presence of uranium mineralisation as found on the western side of the granite body.

During the year under review, the tenement remained under care and maintenance. The main activity was undertaken (under the instruction of several administrators) which included a review, tenement ranking and evaluation.

MLN 41 is a small tenement standing alone and surrounded by EL 22970. It is possible to explore this tenement in conjunction with EL 22970. An anticipated program for the tenement includes ground truthing, soil sampling and RC drilling.
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**Figure 1**: Location and geology of MLN 41
1.0 INTRODUCTION

MLN 41 is located on the Mount Evelyn (1:250 000) sheet area, about 5 km NW of the Moline Gold Field. The MLN covers the North Evelyn base metal prospect and was acquired by M Teelow and now is under the control of GBS Gold Australia Pty Ltd.

2.0 TENEMENT DETAILS

MLN 41 covers 8.9 hectares and is surrounded by EL 22970, which is owned by M. Teelow. The MLN was applied for to cover North Evelyn base metal prospect and was granted in 1969 for 21 years. Last renewal was granted on 20 February 2007 and will expire on 31 December 2011. An option agreement dated 30 October 2003 and a Deed of Variation dated 12 November 2004 gave GBS Gold Australia’s subsidiary Terra Gold Mining Limited the option to prospect and explore for minerals on MLN 41 and other tenements in the Moline project area. GBS Gold Australia (including all subsidiary companies) went into voluntary administration on 15 September 2008 and Crocodile gold Australia acquired all exploration and mining assets previously held by GBS Gold Australia. Currently, arrangements are underway to acquire MLN 41 and other tenements in the Moline Project by Crocodile gold Australia.

Underlying the tenement is the Mary River Wildlife Ranch Pty Ltd (No. 1631) for the whole area, except for a small portion of Crown Lease (CLP1617) held by the Moline Golf Club (Inc).

3.0 LOCATION AND ACCESS

The tenement centres on Latitude 132° 07’07.75” and Longitude 13° 38’39.96” and is situated about 200 km SE of Darwin and about 5 km NW of Moline Gold Field. Access to the tenement can be obtained from the Stuart Highway just before Pine Creek along
the Kakadu highway, which runs east of the Pine Creek Township. 20 km on the Kakadu Highway will take you to the Moline turn off, and then north of the Kakadu Highway by a bush track for 4 km, leads to the tenement. This track is only for four wheel drive vehicles and can be restricted during wet season. Topography consists of low hills and ridges, usually with good rock outcrop, which drain into the Mary River. Vegetation consists of open savannah woodlands.

4.0 GEOLOGICAL SETTING

MLN 41 is situated within the Pine Creek Orogen, a tightly folded sequence of Lower Proterozoic rocks, up to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval \( \approx 2.2-1.87 \)Ga. Geology of the area has been described by Stuart-Smith et al. (1987) and Ahmad et al. (1993). The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with locally significant inter-
layered tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded the lower formations of the South Alligator Group.

During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded, faulted and pervasively altered with metamorphic grade averaging greenschist facies with phyllite in sheared zones.

The Cullen intrusive event introduced a suite of fractionated calc-alkaline granitic batholiths into the sequence in the period ~1.84-1.74Ga. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created regionally extensive biotite and andalusite hornfels facies.

Less deformed Middle and Late Proterozoic clastic rocks and volcanics have an unconformable relationship to the older sequences. Flat lying Palaeozoic and Mesozoic strata along with Cainozoic sediments and proto-laterite cementation overlie parts of the Pine Creek Geosyncline lithologies. Recent scree deposits occupy the lower hill slopes while fluviatile sands, gravels and black soil deposits mask the river/creek flats areas.

There is a tendency for gold mineralisation to be focused in anticlinal settings within strata of the South Alligator Group and lower parts of the Finniss River Group. This sequence evolved from initial low energy shallow basinal sedimentation to higher energy deeper water flysch facies. Some of the gold mineralisation appears to be related to the I-type members of Cullen Batholith, formed during the evolution of hydrothermal fluids as a result of fractionation and differentiation processes (Bajwah, 1994).

The tenement is located northern Part of Mount Evelyn 1: 250 000 sheet (Pine Creek Orogen), which is characterised by open to tight, upright N to NW-trending folds of lower Proterozoic meta-sedimentary and volcanic rocks (Ferenczi and Sweet, 2005). The geology (from the 1:250,000 map) within the tenement areas is shown in Figure 1. The Koolpin Formation meta-sediments dominate the tenement. Surrounded by Gerowie Tuff and Mount Bonnie Formation, the sequence has been intruded by the Allamber Springs Granites on the east. This has introduced a strong contact aureole in the strata, marked by the presence of skarn mineralisation.
MLN 41 and surrounding is host to gold and base metal mineralisation. Further south, well known Moline Gold Field is located which was in 1882 by Chinese and since then has produced 2.5 of gold. A skarn gold prospect (Dustbowl) lies in the close proximity of the tenement (Figure 1). The host rock is vein quartz within calc-silicate skarns assigned to the Koolpin Formation. Initial rock chip assays of up to 42.7 g/t Au were not substantiated in follow-up programs (Fitzgerald 1989).

4.1 Mineralisation and Prospectivity

A number of base metal deposits/prospects are located around the tenement which is hosted by marble and calc-silicate hornfels of the Koolpin Formation, adjacent to the Allamber Springs Granite (Figure 1). Evelyn lead-zinc-silver mine is the largest deposit of this class and was initially worked during 1886–1889, producing 610 t Pb and 2.8 t Ag (Hossfeld et al. 1937). Mining was intermittent between 1894 and 1948, producing 4149 t of ore (Bagas 1983). United Uranium NL reopened the mine in 1966, producing 81 554 t of ore grading 5.5% Pb, 7.5% Zn and 276 g/t Ag until mine closure in August 1970 (NT DPIFM Mine Production Records 1966–1970). Some 54 t of cadmium and 56.6 kg of gold were extracted as by-products (Bagas 1983). A remaining indicated resource of 7420 t at 6.7% Pb, 3.7% Zn and 343 g/t Ag was reported at the time of mine closure.

The tabular, north-trending (340–010°) lodes dip about 80° to the east and are up to 4.5 m wide and 80 m long. These lodes are widest at their northern end, narrowing southwards, and at depth are known to pinch and swell. The host rocks strike westerly (290°) and dip 50° to the north. Faulting is common in the vicinity and appears to control the orientation and strike extent of the ore-bodies.

North Evelyn and Northwest Evelyn are located respectively 400 m and 500 m northwest of the Evelyn mine. About 500 t of high-grade silver-lead ore was extracted from each open cut by United Uranium NL in 1967–1968. The rich pods were 0.5–1 m wide and continuous over a strike distance of 40 m. Weathered shale and calc-silicate hornfels formed the wall-rock. A combined remaining resource of 38 100 t at 3.7% Pb and 193 g/t Ag has been estimated for the deposits (Williams 1998).
Geological setting of the area shows that tenement and surroundings (EL 22970, GBS Gold manager) has significant potential for gold and base metal mineralisation. Presence of the Koolpin Formation and Allamber Springs Granite further point towards the presence of uranium mineralisation as found on the western side of the granite body.

5.0 EXPLORATION DURING THE REPORTING PERIOD

On 15 September 2008, GBS Gold Australia went into voluntary administration, and as a result of that all mining and other exploration activities ceased and the project area was placed under care and maintenance. Under the instruction of several administrators, the main activity was to prepare assets for sale. For this purpose, a technical review, tenement ranking and valuation was undertaken. In addition, reconnaissance visits were also undertaken. This exercise established the potential of the project area. After meeting regulatory and statutory requirements Crocodile Gold Australia acquired all assets including MLN 41 held by GBS Gold Australia (liquidated) on 6 November 2009. Following this transaction, Crocodile Gold Australia embarked on an ambitious exploration and mining program in the area.

MLN 41 contains Mt Evelyn base metal prospect which has been subjected to small scale mining in the past. In 2008 GBS Gold Australia (liquidated) undertook base metals exploration program, which successfully delineated significant resources at Iron Blow and Mt Bonnie deposits. Planning of drilling campaign to cover other base metals deposits/prospects was underway when GBS Gold Australia was declared under voluntarily administration. It is expected that mineral potential of MLN 41 will play an important role in reviving the base metal exploration and mining activity in the region.

Other activities which were conducted are given below:

- Data validation
- Reconnaissance visit
- Report preparation
- Tenement administration

During the reporting year, exploration program for MLN 41 costed $3000.00.
6.0 PROPOSED EXPLORATION PROGRAM FOR 2010

Crocodile Gold Australia recognises the mineral potential of MLN 41 which can host gold or base metal mineralisation and supplement ore resources at Moline Gold Field (MLN 1059), or compliment base metal resources present at Mt Bonnie and Iron Blow deposits. It is expected that after the evaluation of Mt Bonnie and Iron Blow deposits, Mt Evelyn prospect will be tested fully for its base metal potential. MLN 41 is a small tenement standing alone and surrounded by EL 22970 (Crocodile Gold Australia Manager). It is also possible to explore this tenement in conjunction with EL 22970. An anticipated program for the tenement includes ground truthing, soil sampling and RC drilling. A minimum budget of $3500.00 is proposed.

7.0 REFERENCES


Hossfeld PS, Rayner JM and Nye PB, 1937. The Evelyn silverlead
