ANNUAL REPORT
MLN1059
Moline
FOR PERIOD ENDING 15 August 2009

Mount Evelyn: 1:250,000
Ranford Hill: 1:100,000
Titleholder: Michael Daniel Teelow

Distribution:-
1. DRDPIFR Darwin
2. Crocodile Gold Australia Humpty Doo
3. Burnside Operations P/L Brocks Creek

Report Number: PC/BJV/09-45

Zia U. Bajwah
November 2009
MLN 1059 is a strategic project within Crocodile Gold Australia’s portfolio which is located about 240 km SE of Darwin. It covers Moline Gold Field (e.g Hercules, School, Moline and Tumbling Dice) which is located about 220 km SE of Darwin. GBS subsidiary Terra Gold Mining Ltd has an option agreement with Michael Teelow (title holder) to explore and acquire the tenement. Currently, Crocodile Gold Australia is in the final stage of executing the purchase agreement regarding MLN 1059 with the tenement holder.

The tenement encompasses a suite of meta-sedimentary rocks which belong to the Burrell Creek and Mt Bonnie Formations. Locally these rocks are isoclinally folded with fold axes plunging at shallow angles to the south east. Mineralisation is found in zones of pyrite, quartz, and brecciated country rock with minor veinlets of sphalerite, tetrahedrite, arsenopyrite, chalcopyrite and carbonates.

During the reporting period, GBS Gold Australia was declared under voluntary receivership on 15 September 2008, and all exploration and mining projects were placed under ‘Care and Maintenance’. In 2008-09, project was reviewed and a valuation of the tenement was undertaken. MLN 1059 ranked highly due to significant potential it has for gold mineralisation. In April 2009, Crocodile Gold Australia announced to acquire all assets held by GBS Gold Australia (liquidated). After regulatory and statutory approval, now all assets including optional rights on MLN 1059 have been transferred to Crocodile Gold Australia. Other activities during the reporting period are reconnaissance visit, technical review of the tenement, planning for up-coming field season and report writing and tenement management activities.

Crocodile Gold has commenced “due diligence” on the project area. The Moline project will remain under review and on availability of financial resources, a campaign of in-fill soil sampling will be carried out, and if new targets are identified that will lead to RC drilling.
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1.0 INTRODUCTION

Moline Gold Field is located within MLN 1059 which covers a number of abandoned gold mines/pits which were last worked out in 1990’s. This report describes exploration activity undertaken during the reporting period ended on 15 August 2009.

2.0 LOCATION AND ACCESS

MLN 1059 is located about 200km SE of Darwin. Access is from Pine Creek (220km SE of Darwin) along the Kakadu Highway (approximately 45km east of Pine Creek). Access to MLN1059 is via the main haul road, old mining tracks and station tracks (Figure 1). Within the tenements access is possible by the well established tracks, developed during previous exploration and mining operations.

Topography consists of low hills and ridges, usually with good rock outcrop, which drain into the Mary River via Bowerbird, Evelyn, Eureka and O’Neil Creeks. The Mary River forms the northern boundary of EL24127, and the Wandie Creek is close to the southern boundary of the tenement group. Vegetation consists of open savannah woodlands.

3.0 TENEMENT STATUS AND OWNERSHIP

MLN 1059 is held by Michael Daniel Teelow along with other exploration licences in the area (Figure 1). It was granted on 16 August 1990 and will expire on 15 August 2015. An option agreement dated 30 October 2003 and a Deed of Variation dated 12 November 2004 gave GBS subsidiary Terra Gold Mining Limited rights to explore and purchase the tenement. GBS Gold Australia commenced proceedings to purchase the tenement, however, in September 2008 the company went into voluntary administration. Crocodile Gold Australia acquired the optional rights over MLN 1059 on 9 November 2009, after purchasing assets held by GBS Gold Australia (liquidated). Currently, Crocodile Gold Australia is in the final stage of executing the purchase agreement regarding MLN 1059 with the tenement holder.
Figure 1: Tenement Location Map
MLN 1059 straddles 3 graticular blocks and covers about 418 hectares. Underlying cadastre is the Mary River Wildlife Ranch Pty Ltd (No. 1631) for the whole area.

4. GEOLOGY

4.1 Regional Geology

MLN 1059 is situated within the central region of the Pine Creek Orogen, which is characterised by open to tight, upright N to NW-trending folds of the Palaeoproterozoic meta-sedimentary and volcanic rocks (Ferenczi and Sweet, 2005). The geology within the tenement areas is shown in Figure 2. NW-trending overturned anticlines of Mt Bonnie Formation sediments dominate the central tenements, with some exposures of refolded Gerowie tuff further to the northwest. Folded Burrell Creek Formation sediments are the dominant lithology further north and south on EL’s 24127, 24262, 22966, 22967 and 22968. Portions of McCarthys Granite are mapped on EL24262, and Allamber Springs Granite is recorded on the western boundaries of EL’s 22970 and 24127. The Bludells Dolerite is mapped as a wormlike body within the Allamber Springs Granite on EL24127, and is considered to be a mafic end-member of the host pluton (Stuart-Smith et al., 1993). Mineralogical evidence suggests that these rocks predate the host granite intrusions, and may represent remnant rafts of Zamu Dolerite.

4.2 Local Geology

The area around the Moline Pits is dominated by two main sequences of meta-sediments of the South Alligator Group and Finniss River Group (Figure 3). An upper sequence of thickly bedded greywackes and siltstones of the Burrell Creek Formation and a lower sequence of thinly bedded cherty shale and carbonaceous shales of the Mt Bonnie Formation. Mineralisation is found within both units. Within MLN 1059 meta-sediments are isoclinally folded about axes plunging at low angles towards the southeast. These folds are intersected by west dipping shear zones trending between NW-SE to N-S which control the ore shoots hosting pyrite, gold and base metal mineralisation. Steeply dipping, northwest trending shears, parallel to fold axial planes, are common. Some steep northeast trending, cross faults, are also present (and outcrop in the west wall at the south end of the pit) and post date the mineralisation.
Figure 2: Regional Geological Setting of the area.
Figure 3: Geological Setting of the Project area
The Hercules shear which contained the Hercules Reef cross cuts the stratigraphy and trends 345 magnetic in the north of the pit, but swings to trend 315 magnetic (sub parallel to stratigraphy and locally known as the Carolina Reef) in the south of the pit and continues through School Pit. This structure is mineralised over 3km strike length and dips steeply (average 65 degrees) to the west. Ore shoots pinch and swell both down dip and along strike. There are at least two sub parallel but weaker mineralised shears in the hanging wall.

The Hercules pit contains three ore shoots that pitch south at shallow angles. The two southern shoots are hosted by greywacke/siltstone beds within a synclinal fold plunging to the SE across the pit, while the northern shoot is contained within the carbonaceous shales and cherts. Shoots are probably part of a shear-link or dilational-jog structure within the trend of the shear.

Mineralisation in the Hercules Reef is in dilational breccia zones filled with pyrite, quartz, country rock fragments and variable veinlets of sphalerite, tetrahedrite, arsenopyrite, chalcopyrite and carbonates. Gold occurs as fine particles (1-25 microns) within micro-fractures in pyrite and within grains of sphalerite, pyrite and galena. High copper is associated with higher gold values.

5.0 PREVIOUS MINING AND EXPLORATION HISTORY

MLN1059 encloses the main open pits of Hercules, School, Moline and Tumbling Dice, along with several smaller satellite pits, which were in operation between 1989-1992. Ferenczi and Sweet (2005) summarised the early history of gold discovery in the Moline area. Gold was first discovered at Northern Hercules mine (also called Eureka) by Chinese miners in 1882. Underground mining of the high-grade (31g/t Au) oxidised veins by various companies continued sporadically until 1957, producing 1.15t Au (Stuart-Smith et al, 1988) and extending to 120m (400ft) depth. Re-treatment of tailings in 1987, and open cut mining by Moline Management Pty Ltd from 1988 – 1991 recovered a further 1.23t Au.
Since the grant of MLN 1059 to the current holder, the tenement has been under review, care and maintenance with peripheral activities undertaken.

During the first year of grant of the tenement, the work consisted of a preliminary review of previous work, which focussed on the gold mineralisation and drill results. During the second year of tenure, the work consisted of a further review of previous work, compilation of a geochemical database, drill hole planning and field mapping.

Reporting period ending on 15 August 2006 saw exploration activity on ground with the drilling of four diamond drill holes and assaying the sample retrieved from drill holes within the project area. Significant assay results are given below.

- In RC pre-collars best results are MEX003 2m@3.26g/t Au from surface and MEX001 2m@3.2g/t Au from 8m.
- In HQ Diamond Core best results are MEX004 0.86m@6.53g/t Au from 70m and 0.97m@8.45g/t Au from 88.3m, in MEX003 2.09m@1.12g/t Au and 1.98m@4.45g/t Au from 194 and 203m respectively.

During 2006-08, a total of 8 soil samples were collected from the tenements and analysed for Au, Cu, Pb, Zn and As. These samples came from the south-eastern corner of MLN 1059. Au ranges from 22 ppb to 90 ppb; sample EX2408 recorded 0 concentration of Au. EX2410 shows the highest concentration of Au, AS, Cu, Pb and Zn indicating a close association of base metals with gold mineralisation.

6.0 EXPLORATION DURING PERIOD ENDING 15 OCTOBER 2009

During 2008-09 reporting period, company resources focused on the development of Chinese South (Big Pit), Toms Gully, Cosmo Deep and Maud Creek projects with a budget of tens of million dollars. Chinese South came on-line in April and Toms Gully commenced production in July 2008. At the same time significant progress was made in developing Maud Creek deposit with the targeted production of over 75 000 ounces of gold per year. However, on 15 September 2008, GBS Gold Australia was declared under voluntary receivership, and all exploration and mining projects were placed under ‘Care and Maintenance’.
During the reporting period, project was reviewed and a valuation of the tenement was undertaken. MLN 1059 ranked highly due to significant potential it has for gold mineralisation. In April 2009, Crocodile Gold Australia announced to acquire all assets held by GBS Gold Australia (liquidated). After regulatory and statutory approval, now all assets including optional rights on MLN 1059 have been transferred to Crocodile Gold Australia. Currently, Crocodile Gold Australia is in the final stage of executing the purchase agreement regarding MLN 1059 with the tenement holder.

Other activities during the reporting period are:

- Reconnaissance visit
- Technical review of the tenement
- Planning for up-coming field season
- Report writing and tenement management activities.

This activity costed $9570.00.

7.0 PLANNED EXPLORATION DURING 2009/10

After securing the tenement, Crocodile Gold has commenced “due diligence” on the project area. The Moline project will remain under review and on availability of financial resources, a campaign of in-fill soil sampling will be carried out, and if new targets are identified that will lead to RC drilling. A minimum expenditure of $10000.00 is set-a-side for the next year’s exploration program.

8.0 REFERENCES


year ending 15th July 1999; *Northern Territory Geological Survey Company Report*


