FINAL REPORT

MINERAL CLAIMS (Northern) 4072 AND 4074

PINE CREEK PROJECT

SEPTEMBER 2012

Distribution:-
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2. Crocodile Gold Australia, Humpty Doo

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1 EXECUTIVE SUMMARY

The Pine Creek Group of tenements comprises 8 tenements (MLN’s 13, 1130, and MCN’s 317, 523, 1054, 1055, 4072, 4074). This group is located approximately 220 km SE of Darwin. Crocodile Gold Australia acquired the tenement group in 2009 by purchasing liquidated assets of GBS Gold Australia. Historically, the tenements have been the focus of alluvial and hard rock gold mining activity since 1869. The two Mineral Claims (Northern) 4072 and 4074 formed part of the Pine Creek mining group, these two tenements also site on EL23583 which remains part of the Pine Creek project for Crocodile Gold.

Crocodile Gold is currently going through a review of all tenement holdings and these two tenements were part of that review. It has been decided to relinquish these titles as little, or no, exploration has been performed and in the short term there are no areas with economic mining prospects. It was therefore decided to relinquish these MCN’s but hold on to the underlying Exploration License to continue exploration in this highly prospective area.

2 COPYRIGHT

This document and its content are the copyright of Crocodile Gold Australian Operations (CGAO). The document has been written by Marcelle Watson for submission to the Northern Territory Department of Resources as part of the tenement reporting requirements as per Regulation 87 of the Minerals Titles Act.

Any information included in the report that originates from historical reports or other sources is listed in the “References” section at the end of the document.

This report may be released to open file as per Regulation 125(3)(a).
3 INTRODUCTION

The Pine Creek Group of tenements (MLN’s 13, 1130, MCN’s 317, 523, 1054, 1055, 4072, 4074) covers historical Pine Creek Goldfield and envelops mines such as International, Enterprise, Elsinore and Kohinoor which have all produced significant quantities of gold in the past 150 years. Pine Creek is seen as a significant project to Crocodile Gold.

Crocodile Gold Australia applied for group technical reporting status on the group of tenements comprising the Pine Creek project area. This was approved by Department of Resources in December 2010 and the Pine Creek mining project area was given the group reporting number GR-188/11. MCN’s 4072 and 4074 are part of this group reporting and will need to be removed for future reporting purposes.

4 LOCATION AND ACCESS

MCN’s 4072 and 4074 are located approximately 230 km SE of Darwin, NT. The Stuart Highway provides access to Pine Creek and the tenements may be accessed by tracks south west of town, although in some areas access may be blocked by gates. Previous versions of the old Stuart Highway pass through the Pine Creek group. These were made redundant by previous mining operations that required that the Highway be relocated. The present Highway and Darwin-Adelaide railway pass just to the east of town.

Figure 1 shows the location of the Pine Creek group of tenements.

5 TENEMENT DETAILS

The Pine Creek tenement group was granted to Buffalo Creek Mines Pty Ltd (50%) and Territory Goldfields NL (50%), which were part of the Burnside JV. The Burnside JV was between Harmony Gold (50%) and Northern Gold NL (50%). During 2005, GBS successfully made a takeover for Northern Gold NL, and reached an agreement to purchase Harmony’s 50% share of the Burnside project.

On 15 September 2008, GBS Gold Australia went into voluntary administration and as a result of that all exploration and mining assets were placed under care and maintenance. In June 2009 Crocodile Gold Australia announced to purchase these assets, and after meeting regulatory and statutory requirements, these assets were transferred to Crocodile Gold Australia on 6 November 2009. Crocodile Gold currently has a Notice of Intent with the Department of Resources for the International deposit located on MLN1130 which is currently waiting for approval.

Table 1 lists all the tenements of the Pine Creek group.
Table 1: Pine Creek Tenement Group prior to relinquishing MCN’s 4072 and 4074

<table>
<thead>
<tr>
<th>Tenement ID</th>
<th>Date Granted</th>
<th>Expiry Date</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLN13</td>
<td>14/02/1985</td>
<td>13/02/2030</td>
<td>534</td>
</tr>
<tr>
<td>MLN1130</td>
<td>1/10/1993</td>
<td>12/02/2030</td>
<td>216</td>
</tr>
<tr>
<td>MCN317</td>
<td>16/05/1983</td>
<td>31/12/2014</td>
<td>6.88</td>
</tr>
<tr>
<td>MCN523</td>
<td>4/07/1983</td>
<td>31/12/2014</td>
<td>112</td>
</tr>
<tr>
<td>MCN1054</td>
<td>24/06/1994</td>
<td>31/12/2013</td>
<td>4.17</td>
</tr>
<tr>
<td>MCN1055</td>
<td>26/11/1987</td>
<td>application for renewal</td>
<td>1.5</td>
</tr>
<tr>
<td>MCN4072</td>
<td>9/05/1991</td>
<td>8/05/2012</td>
<td>9.4</td>
</tr>
<tr>
<td>MCN4074</td>
<td>9/05/1991</td>
<td>8/05/2012</td>
<td>13.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>897.55</strong></td>
</tr>
</tbody>
</table>

Underlying cadastre for the whole tenement group is mixed, with the dominant landholder being Crown Land (12 separate parcels). The northern part of MLN1130 is covered by Pastoral Lease held by Equest Pty Ltd (Mary River Station?), while MCN’s 4072, 4074 and parts of MCN 523 are within Bonrook Station (PPL 643; Franz Weber). Other landholders include PPL 1058 (Taimatsu Australia Pty Ltd; Jindare Station) on MLN13, plus small portions of the railway corridor (AustralAsia Railways) on the western edge of MCN’s 4072 and 4074.
Figure 1: MCN4072 and MCN4074 Location
6 GEOLOGICAL SETTING

6.1 REGIONAL GEOLOGY

The Pine Creek group of tenements are situated within the Pine Creek Geosyncline, a tightly folded sequence of Lower Proterozoic rocks, 10km to 14km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga. The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with locally significant inter-layered cherty tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded 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 ~1.84-1.80Ga. 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 sometimes with proto-laterite cement occupy the lower hill slopes while fluviatile sands, gravels and black soil deposits mask the river/creek flats areas.

Regionally 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. Dated at ~1740Ga (Sener 2004) the gold events post dated the Pine Creek Orogeny and Cullen intrusive events and has favoured suitable litho-structural sites in the biotite-hornfels contact facies.
6.2 LOCAL GEOLOGY

The tenements lie 2.5km south east of Pine Creek NT within the Pine Creek Geosyncline, a strongly folded and faulted metasedimentary sequence of Lower Proterozoic age. The Pine Creek area comprises a NW-SE elongate and sheared lobe of sedimentary rocks within an embayment of the Cullen Batholith.

The Cullen Batholith is a large complex of syn to post folding Lower Proterozoic granitoid intrusions including the Tabletop Granite and the Bonrook Granite at Pine Creek. These intrusives dated at 1840-1800Ma are believed to underlie much of the Pine Creek field and elevated the metamorphic grade to garnet-andalusite bearing hornfelses and phyllites. Post intrusive rejuvenated pulses of volatiles have introduced gold bearing fluids into anticlinal structural traps following cratonic events in southern Australia at around 1740Ma. (after Sener 2004)

Most of the gold deposits in the Pine Creek area are associated with quartz-sulphide veining in cherty siltstones and greywackes of the Mt Bonnie Formation and the transition with higher energy greywackes of the overlying Burrell Creek Formation.

Faulted anticlinal fold axes and sheared western limbs are the preferred structural settings for gold deposition at the Enterprise, Gandys Hill and International open pit mines that closed in the mid 1990s.

The Enterprise Anticline is the most important fold in the mineral field and has been traced for 11km along strike. It is an upright fold with a sub vertical axis and limbs dipping around 60-80 degrees. The axis has a shallow plunge to the south of 5-10 degrees. Several subordinate sub parallel fold systems accompany the Enterprise anticline and commonly show evidence of gold mineralisation. These fold sets are interpreted to pass close to MCN4072 and MCN4074.

7 PREVIOUS EXPLORATION ACTIVITIES

Little or no records identify previous exploration on these two titles with most of the exploration activities within the Pine Creek project centred on the gold deposits further to the north on MLN’s 13 and 1130. This assisted with the decision to relinquish these two tenements.

No data is available to be included with this report due to the lack of previous exploration by this and previous owners of this title.
8 REFERENCES


Shaw 2006, PineCreek Project renewal application for MCN4072 and 4074. January 2006