Final Report
to
18 February 2015

Tenements
MCN’s 4701-4703

Map sheets
Pine Creek SD5208 - 1:250,000 scale
McKinlay River 5271 - 1:100,000 scale

Distribution:-

1. DOR Darwin, NT
2. Crocodile Gold Australia, Darwin
3. Rockland Resources, Brisbane
4. Phoenix Copper, Adelaide

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April 2015
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EXECUTIVE SUMMARY

The Brocks Creek Project area tenements MCN’s 4701-4703 are located in the central part of the Pine Creek Orogen, which is one of the main gold producing areas in the Northern Territory. The mining tenements are located roughly 140 km southeast of Darwin, NT. The Brocks Creek area has historically been the focus of open pit, underground and alluvial gold mining with significant quantities of gold being discovered along the Brocks Creek-Zapopan (BKZ) structure. Crocodile Gold Australia acquired the project area in August of 2011.

The project area comprises of a sequence of Palaeoproterozoic meta-sedimentary rocks found in the South Alligator Group and Finniss River Group, which is intruded by the Burnside Granite. This rock sequence has been tightly folded on axes, which trend north westerly, and have been subjected to greenschist facies metamorphism. Thermal effects from the late-orogenic Burnside Granite, which lie to the north of the group, have imparted hornfelsing and porphyroblastic spotting of garnet, biotite and andalusite/cordierite. This tends to depend on lithology and the proximity to the contact.
Exploration activities conducted over the relinquished tenements from 2011 to 2014 included several desktop reviews and campaigns of reconnaissance mapping and data compilation.

Crocodile Gold has made the decision to relinquish mineral titles MCN4701, MCN4702 and MCN4703 (Figure 1) to allow another party to conduct exploration activities within the area.

2 COPYRIGHT

This document and its content are the copyright of Crocodile Gold Australian Operations (CGAO). The document has been written by Amanda Schwartz for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per Regulation 86 of the Mineral 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) (b).
3 INTRODUCTION

Tenements MCN4701, MCN4702 and MCN4703 are located approximately 140km southeast of Darwin in the Northern Territory and were a part of the Brocks Creek Project area. The area has historically been the focus of alluvial and gold mining, with featured gold production from the Brocks Creek-Zapopan (BKZ) structure. These tenements are located approximately 7km southeast of the Brocks Creek office area. From its acquisition in 2011, the area was regarded with potential for gold deposits due to the proximity to the Brocks Creek and Zapopan structures.

The area is underlain by a sequence of Palaeoproterozoic meta-sedimentary rocks, which are intruded by the Burnside Granite and form part of the Pine Creek Orogen. The dominant rock types located within this region are the Burrell Creek sediments. The Brocks Creek goldfields are within the Brocks Creek Project area which is located along the Burnside Granite. The goldfields include Faded Lily, Burgan, Alligator, Crocodile, John Bull, Rising Tide, Brittania, Brocks Creek and several other smaller deposits. In the 2012 Resource Statement done by Crocodile gold the indicated and inferred mineral resources were stated for Rising Tide, Fountain Head and Tally Ho (Edwards et al 2011). These details are displayed in Table 1 below.

<table>
<thead>
<tr>
<th>Deposit</th>
<th>Cut-off (Au g/t)</th>
<th>Tonnes</th>
<th>Grade (Au g/t)</th>
<th>Ounces Gold</th>
<th>Cut-off (Au g/t)</th>
<th>Tonnes</th>
<th>Grade (Au g/t)</th>
<th>Ounces Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rising Tide</td>
<td>0.7</td>
<td>292,000</td>
<td>1.45</td>
<td>13,600</td>
<td>0.7</td>
<td>372,000</td>
<td>1.49</td>
<td>17,800</td>
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<tr>
<td>Fountain Head</td>
<td>0.7</td>
<td>273,000</td>
<td>1.79</td>
<td>15,700</td>
<td>0.7</td>
<td>99,000</td>
<td>1.95</td>
<td>6,200</td>
</tr>
<tr>
<td>Tally Ho*</td>
<td>2</td>
<td>221,000</td>
<td>4.71</td>
<td>33,400</td>
<td>2</td>
<td>114,000</td>
<td>4.86</td>
<td>17,900</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>786,000</td>
<td>2.48</td>
<td>62,700</td>
<td></td>
<td>585,000</td>
<td>2.23</td>
<td>41,900</td>
</tr>
</tbody>
</table>

Note: *Underground Resource

Table 1: Current Resources

4 LOCATION AND ACCESS

MCN4701, MCN4702 and MCN4703 are situated approximately 140km SE of Darwin NT, and roughly 45Km northwest of the village of Pine Creek (Figure 2). Access is gained by travelling approximately 160 km south from Darwin via the Stuart Highway, then heading east along the Fountain Head Road for approximately 12 km.
The tenement’s falls on the Pine Creek 1:250,000 scale map sheet and on the Batchelor 1:100,000 map sheet. The group of tenements are located on Douglas Station pastoral lease, PL2683. The area consist of hills, flats and undulating terrain which generally support tall and mixed open woodland with tall grassy understory (NSR, 1995).
5 TENEMENT DETAILS

The tenement details associated with the MCN’s can be viewed in Table 1, below. They were consolidated between 1987 and 1995 by Cypress Gold Australia and Solomon Pacific-Acacia Resources Pty Ltd. These MCN’s were a part of the original 26 MCN’s which, with MLN1139 and another MLN made up the Brocks Creek Group.

A gold mill was commissioned by Solomon Pacific Resources NL in April of 1996, which was used to process the ore from several open pit gold deposits within the area. The company was subsequently acquired by Acacia Resource (a subsidiary of AngloGold Australia), which continued open pit mining and exploration of the Brocks Creek area up to April 2000. The area was then purchased by Buffalo Creek Mines P/L, a subsidiary of Hill 50 Limited in November 2001.

During 2005, GBS Gold Australia Pty Ltd successfully made a takeover for Northern Gold NL as well as purchased Harmony Gold’s 50% interest of the Burnside project area. Full acquisition of the Burnside Project by GBS Gold Australia Pty Ltd occurred in April of 2006.

Crocodile Gold Australia Pty Ltd received the liquidated mining lease application from GBS Gold on November 9th 2009. However, the titles were transferred to the Company until August 2011.

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Area (ha)</th>
<th>Area (²Kms)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCN4701</td>
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<td>0.36</td>
<td>5/11/1995</td>
<td>31/12/2014</td>
</tr>
<tr>
<td>MCN4702</td>
<td>36.00</td>
<td>0.36</td>
<td>5/11/1995</td>
<td>31/12/2014</td>
</tr>
<tr>
<td>MCN4703</td>
<td>36.00</td>
<td>0.30</td>
<td>5/11/1995</td>
<td>31/12/2014</td>
</tr>
</tbody>
</table>

Table 2: Tenement Details

6 GEOLOGICAL SETTING

6.1 REGIONAL GEOLOGY

Tenements of the Brocks Creek Project are located within the Pine Creek Orogen, a tightly folded sequence of Palaeoproterozoic rocks, 10 to 14 km in thickness, laid down on a rifted granitic Archaean basement during the interval ~2.2-1.87Ga (Ahmad et al. 1993). The sequence is dominated by pelitic and psammitic (continental shelf shallow marine) sediments with minor inter-layered tuff units. Pre-orogenic mafic sills of Zamu Dolerite intruded the sequence prior to regional metamorphism and deformation.
During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded and pervasively altered with metamorphic grade averaging greenschist facies to phyllite. The Cullen Intrusive Event introduced a suite of fractionated calc-alkaline granitic batholiths into the sequence in the period ~1.85-1.78Ga (Bajwah 1994). These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created more extensive biotite and andalusite hornfels facies.

Less deformed Neo- to Meso-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 overlie parts of the Pine Creek Orogen lithologies. Recent scree deposits occupy the lower hill slopes while fluviatile sands, gravels and black soil deposits mask the river/creek flats areas.
Strata comprising of the Gerowie Tuff are the host rocks for gold mineralisation within the Brocks Creek area. This unit contains a repetitious sequence of volcano-sedimentary unit compromising argillite (siltstones/shales/schists) and silicified tuffs. The formation has an apparent thickness of more than 500 meters and is the middle of three discrete units comprising the South Alligator Group (Figure 3). These three formations, and the overlying Burrell Creek Formation (part of the Finniss River Group), are host to many of the significant gold deposits in the Pine Creek Inlier. The combination of formations has been exposed to regional greenshist facies. This, in turn, has resulted in the development of a northwest trending fabric. Consequential to this saw the unrestricted
spread of felsic volcanism and the intrusion of granitoids caused contacts metamorphism, in aureoles between 500 metres and two kilometres wide that overprint the earlier regional metamorphism. Following the granitoid intrusions, an extensive array of northeast and northwest trending dolerite dykes (Zamu) intruded the metasedimentary sequence during regional extensional deformation.

Gold mineralization within the Pine Creek Orogen is preferentially developed within strata of the South Alligator Group and lower parts of the Finniss River Group along anticlines, strike-slip shear zones and duplex thrusts located in proximity to the Cullen Granite Batholith.

Upper and lower contacts between these four formations are gradational and interdigitations are common, however, there is an angular unconformity at the base of the Koolpin Formation. Subjacent to the unconformity is the Mount Partridge Group, though it does not outcrop in the Brocks Creek area (Figure 4).
Figure 4: Relinquished Tenement Location on a Regional Geology Base
6.2 LOCAL GEOLOGY

The tenement area is underlain a sequence of Palaeoproterozoic meta-sedimentary rocks of the South Alligator Group and Finniss River Group, intruded by the Burnside Granite (Figure 2). This rock sequence has been tightly folded on axes that trend north westerly, and have been subjected to phyllitic - middle greenschist facies metamorphism. Thermal effects from the post orogenic Burnside Granite that lies to the northwest of the Group has imparted hornfelsing and porphyroblastic spotting of garnet, biotite and andalusite/cordierite depending on lithology and proximity to the contact. Calc-silicate hornfels is reported from some thermally higher grade areas. The granite emplacement has also distorted and disrupted pre existing fold and fault patterns.

Figure 5: Local Geology and Location of Relinquished Tenements
Rocks of the South Alligator Group comprise of the Koolpin Formation, Gerowie Tuff and Mt Bonnie Formations, which host many of the gold occurrences in the Pine Creek Orogen (Figure 5). The boundaries of the formations within South Alligator Group are gradational while the lower contact of the Group is unconformable with the Mt Partridge Group. The overlying Burrell Creek Formation is generally coarser with high energy greywacke dominant units. This formation is also a significant host to gold deposits in the Burnside and Pine Creek region.

Regionally, the South Alligator Group has been intruded and dilated by semi concordant pre-orogenic sills of Zamu Dolerite. Only the Koolpin Formation appears to have been intruded within the Brocks Creek project area. A tight WNW trending, shallow southeast plunging, asymmetric fold structure termed the Brocks Creek-Zapopan (BKZ) anticline has been subject to axial plane failure and thrust fault movement. It hosts the bulk of gold mineralised occurrences in the immediate area. The association of gold with failed anticlinal axial zones in South Alligator Group is common in the Pine Creek Orogen (Shaw, 2005).

The Koolpin Formation (100m-500m) is typically thin to medium, bedded dark carbonaceous pyritic mudstone-siltstone with rare iron formation and dolomitic horizons. It represents low energy deposition in an anoxic basin and hosts the Cosmo Mine. This formation is also a significant host to other gold and base metal deposits in the Burnside and Pine Creek region.

The overlying Gerowie Tuff (200m-500m) comprises a cyclic silt-greywacke-arenite unit with frequent alternations of thin cherty tuffite beds, and carbonaceous argillite. It represents distal sub-aerial felsic volcanism feeding into a euxinic basin. The unit is present at the Faded Lily, Burgan and Alligator gold deposits.

The Mt Bonnie Formation (150m-500m) is made up of cyclic siltstone, mudstone and greywacke with thin pyritic chert horizons that are locally important host rocks at Brock Creek. It represents slightly higher energy deposition and is a precursor to the high energy greywacke facies of the Finniss River Group into which it grades conformably.

Burrell Creek Formation represented by lithic greywackes and siltstone-argillite is the first formation resting gradationally on Mt Bonnie Formation and outcrops extensively to the south of the BKZ. Regionally it is known to host gold mineralisation, but less commonly than the Koolpin, Gerowie Tuff and Mt Bonnie Formations in the Burnside.
Nevertheless, the significant Union Reefs gold deposits are hosted by Burrell Creek sediments.

Late-stage biotite-lamprophyre and felsic porphyry dykes also cut the meta-sedimentary sequence.

7 EXPLORATION ACTIVITIES PRE-2011

For the years prior to 2011, the MCN titles were held by other companies; a summary of their work is outlined below:

Gold was first discovered in the Brock’s Creek area at the end of 1872 and was mainly worked by the Chinese up until the turn of the 20th century. The mining techniques consisted of alluvial mining, shafts, adits and small pits. By 1895 there were a number of reef mining operations with a total population of 311 people at the Brock’s Creek Township.

In 1935, 1936 and 1939, the Brock’s Creek area was mapped by the Aerial Geological and Geophysical Survey of Northern Australia. Walpole (1968) also mapped the area in his regional survey of the Pine Creek Geosyncline.

During the period of 1954 to 1956, the Brock’s Creek area was worked by Australian Mining and Smelting Limited, whose main focus was on gold and the base metal potential within the carbonaceous shales within the region. The area was then sold to Enterprise Exploration Company Pty Ltd in 1957.

In 1967 the authority to prospect (AP1681) was held by Placer Prospecting Pty Ltd which included the MCN’s 4701-4703. A geological assessment of the ore-bearing potential, in conjunction with a geochemical study, was conducted over the AP during 18 May and 27 June, 1967. Results were seen to be discouraging.

Central Pacific Minerals was granted authority of AP1959 during the 1970’s, which encompassed the MCN’s. Reconnaissance sampling was done over the area with the work was documented in a series of monthly reports, which outlined the rock chip sampling, radiometric readings and soil sampling.

In 1993 Cypress and Solomon Pacific formed a joint venture over the area with 75% ownership going towards Cypress on January 5th, 1993. A drill program was carried out within the same year, which saw 20 vacuum drill bedrock holes drilled within the tenement areas. The results were poor, with the average grade being 0.5 g/t Au.
Further drilling was conducted over the area during the 1998 drilling campaign completed by Acacia Resources. This involved a total of 47 holes being drilled on the tenement area.

On the 10th of November 1995, saw the transfer of titles from Cypress Gold Australia to Solomon Pacific Resources NL. 1995 MCN4689 application granted to AngloGold Australia from Cypress Amax Australia.

The company was subsequently acquired by Acacia Resource (a subsidiary of AngloGold Australia), which continued open pit mining and exploration of the Brocks Creek area up to April 2000. The area was then purchased by Buffalo Creek Mines P/L, (a subsidiary of Hill 50 Limited), who had equal shares in the mineral claims with Territory Goldfields, in November 2001. The joint venture between Buffalo Mining P/L and Territory Goldfields NL was known as the Burnside Joint Venture.

In 2004, a remote sensing study was conducted over the area by Burnside Joint Venture, which accommodated the report writing.

During 2005, GBS Gold Australia Pty Ltd successfully took over Northern Gold NL as well as purchased Harmony Gold’s 50% interest of the Burnside Project area. Full acquisition of the Burnside Project by GBS Gold Australia Pty Ltd occurred in April of 2006.

7.1 EXPLORATION ACTIVITIES 2009- 31 DECEMBER 2014

No exploration activities were reported in 2009-2010 as Crocodile Gold took over the titles from the receivers of GBS Gold.

From 2011 to 2014, exploration over the MCN’s included a complete review of the data associated with the tenements as well as the collation of historic reports and maps associated with the area. These reports and maps are now stored at the Brocks Creek document library. No on ground exploration work was completed on these titles in the time that Crocodile Gold owned them. These titles were part of regional deposit reviews but no significant projects were generated on these leases hence why they have been relinquished.
8 REFERENCES


SHAW J., 2005 *Annual Exploration Report EL23270, Year ending 19th March 2005*. For DBIRD and Burnside JV.


