PARTIAL RELINQUISHMENT REPORT

Woolwonga Exploration Project
EL25748

Sub-Blocks SD521219 S, X and Y

9 November 2009 to 31 December 2014

Pine Creek 1:250,000 SD5208
McKinlay River 1:100,000 5271

Distribution:-

1. DOR Darwin, NT
2. Crocodile Gold Australia, Humpty Doo
3. Rockland Resources, Brisbane

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 EXECUTIVE SUMMARY

Sub-blocks SD521219 S, X and Y of EL25748 are located 140km SE of Darwin, NT and 18km NE of Brocks Creek Siding. They were granted to Buffalo Creek Mines Pty Ltd (50%) and Territory Gold Fields Pty Ltd which were wholly owned subsidiaries of GBS Gold Australia on the 1st of October 2007. GBS Gold Australia went into voluntary administration on 15 September 2008 and all assets including EL 25748 were placed under care and maintenance. In 2009, Crocodile Gold Australia purchased all assets held by GBS Gold Australia (liquidated), and after meeting all statutory and regulatory requirements, EL 25748 along other assets were transferred to new owner.

The tenement comprises a suite of Palaeoproterozoic meta-sedimentary rocks, intruded by late orogenic granites, and form part of the Pine Creek Orogen sequence. It lies just north-east of the Woolwonga gold open pit and the four blocks are contiguous with the Woolwonga tenement group.

Crocodile Gold has made the decision to relinquish all titles surrounding the Woolwonga deposit to allow another party to conduct exploration activities in and around this deposit. This title along with the Mineral Titles MCN3705-3707 and MLN1103 and several sub-blocks of EL25748 have been included in this relinquishment process.
2 COPYRIGHT

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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 tenement (SEL25748) was granted on 1 October 2007 and was due to expire on 30 September 2014, a renewal application was submitted and is still yet to be granted. This tenement was originally a Substitute Exploration License (SEL) made up of previously held SEL24352 and some vacant ground that was part of the expired EL 9080. Under the new Mineral Titles Act (2011) the SEL was reverted to an EL.

As part of the relinquishment of the Woolwonga project, sub-blocks SD521219 S, X and Y from EL25748 have been included in the overall relinquishment process. This will allow a third party to apply for all exploration tenure over the Woolwonga project for future development. Crocodile Gold conducted a review of this project and went to third parties to see if any were interested in acquiring this project. No suitable bidders were identified so the decision was made to relinquish the project to allow a third party the opportunity to acquire the titles from the department directly.

The sub-blocks comprises a suite of Palaeoproterozoic meta-sedimentary rocks, intruded by late orogenic granites, and form part of the Pine Creek Orogen sequence.

Limited on ground work has been completed on these sub-block since being granted in 2007. Since 2009 Crocodile Gold has reported no work on these sub-blocks as the majority (~95%) of the area is covered by granted mineral lease MLN1103.
4 LOCATION AND ACCESS

Sub-blocks SD521219 S, X and Y from EL25748 are situated 140km SE of Darwin NT and 18km ESE of Brocks Creek siding on the Darwin-Alice Springs railway. Access to the tenement is via the Stuart Highway, then north via the Fountain Head/Ban Ban Springs sealed road that comprised the haul road for Woolwonga in the mid-1990s. The access deteriorates beyond Woolwonga but reasonable dry season access can be gained using bush tracks that service the Ban Ban Springs pastoral area. The Margaret River and tributaries meander northward through the tenement.

The tenement falls on the Pine Creek 1:250,000 sheet and on the Ban Ban 1:50,000 sheet. The tenement also is within the Ban Ban Springs pastoral lease. Outcrops are relatively sparse through much of the tenement due to the influence of the Margaret River alluvial deposits. Due to steep incised banks, river crossings of the Margaret River are difficult except at prepared locations.

Figure 1 Location of Sub-blocks SD521219 S, X and Y of EL25748
5 TENEMENT DETAILS

EL25748 was originally applied for by an equal share joint venture between Territory Goldfields and Buffalo Creek Mines on the 5th of December 2006 and was subsequently granted on the 1st of October 2007 for a period of 4 years.

Further renewals were requested and accepted in 2011 and 2012 with a further renewal requested in 2014 which is currently being reviewed by the department.
GEOLOGICAL SETTING

6.1 REGIONAL GEOLOGY

Regional geology of the area has been described by several workers notably Ahmad et al (1993) and Stuart-Smith et al (1987). EL25748 is situated within the Pine Creek Orogen, a tightly folded sequence of Palaeoproterozoic 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 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 ~1.80-1.78Ga. 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 Orogen lithologies. Recent scree deposits sometimes with proto-laterite cement occupy the lower hill slopes while fluvialite sands, gravels and black soil deposits mask the river/creek flats areas.

There is a tendency for gold mineralisation to be focused in the contact aureoles present within anticlinal structures (D3) 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 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).

Figure 2 illustrates the regional geology of the Burnside Area.
Figure 2 Regional Geology for the Burnside Project
6.2 Local Geology

The sublocks of EL25748 are situated within the Pine Creek Geosyncline, a tightly folded sequence of fine to coarse grained clastic basinal sediments of Lower Proterozoic age.

In the reported area the sequence has been regionally metamorphosed to greenschist facies and has been intruded by late syn-orogenic to post orogenic granitoid intrusions. These intrusions imparted thermal contact metamorphic and metasomatic effects and contributed to the deposition of a range of economic minerals in structurally permissive sites.

There is a tendency for gold mineralisation to be focused in anticlines within strata of the South Alligator Group and lower parts of the Finniss River Group. This sequence evolved from initial low energy shallow euxinic basinal sedimentation to higher energy deeper water flysch facies. A water-lain tuffaceous component is present and the prospective sequence has been intruded by concordant pre orogenic mafic sills.

Less deformed Middle Proterozoic sedimentary and volcanic sequences unconformably overlie the Lower Proterozoic. Adjacent to the Daly River Basin, Cambo-Ordovician lavas and sediments onlap the older sequences. Cretaceous arenaceous strata are locally preserved as hill cappings.

Cainozoic to Recent erosion of the cratonised basement has resulted in the formation of hills and ridges alternating with talus and clay-sand alluvial deposits occupying river flats and flood plains.

The tenement encloses a sequence of South Alligator Group clastic sediments that are folded and faulted on North West strike trends.

Within the tenement the Group is represented by sparse low outcrops of Burrell Creek Formation which is typically a greywacke-dominated assemblage with subordinate dark siltstone (Figure 3).
Figure 3 Local Geology showing Sub-blocks for EL25748
7 EXPLORATION ACTIVITIES PRE-2009

For the years prior to 2009, the sub-blocks of EL25748 were held by other companies, however a summary of the work they completed is outlined below;

EL615 – AOG minerals held a large tenement in the area in the mid-1970’s and concentrated most of their work on the Mount Bonnie and Iron Blow prospects.

EL3107 covered the southern part of EL25748 from 1981 to 1988, but the work consisted of ‘chip sampling (locations and assays not supplied), and dollying. The target appeared to be the slopes and flats below the Woolwonga workings. Exploration was reportedly unsuccessful.

Dominion Mining explored the northernmost sub-block of EL25748 as part of their lease EL4441. EL4441 was originally granted to Peko in 1983, and Dominion replaced Anaconda as JV managers in 1985. Exploration during 1984 and 1985 failed to locate quartz veining or alteration to the east of Margaret River, and the EL was reduced. Work done by Dominion during 1987 was restricted to one block, which is now covered by MLN1103.

Little or no work was reported on the sub-blocks SD521219 S, X and Y of EL25748 since MLN1103 was granted in 1991 and subsequently since Crocodile Gold took over ownership of the title in 2009.

7.1 EXPLORATION ACTIVITIES 1 JANUARY 2010- 31 DECEMBER 2014

No exploration activities have been reported on these sub-blocks seeing as they are covered by MLN1103 which has had some exploration activities reported previously.
REFERENCES


