FINAL REPORT

MCN’s 3705-3707

Woolwonga

9 November 2009 to 19 August 2016

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

Distribution:-

1. DME Darwin, NT
2. Newmarket Gold Inc., Darwin
3. PNX Metals, Adelaide
4. Rockland Resources, Brisbane

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1 EXECUTIVE SUMMARY

The Woolwonga Leases (Mineral Claim Northern 3705, 3706 and 3707) comprises a historical mining area which is located about 130 km SE of Darwin, NT and 16 km NE of the Brocks Creek mine. It covers the Woolwonga gold mine which is situated within the historical gold mining field. GBS Gold Australia (liquidated) Pty Ltd acquired the tenements in 2005 through a subsidiary Northern Gold Limited. GBS Gold Australia went into voluntary administration on 15 September 2008 and liquidated assets of the company were purchased by Newmarket Gold Inc. (then Crocodile Gold) on 6 November 2009.

Gold mineralisation at Woolwonga is associated with quartz-sulphide veins which fill faults and fractures set in Mt Bonnie Formation. Mineralisation and historic workings on vein outcrops occurred over the full length of the original Main Ridge, and colluvial shedding from this extended for 500m SE of the ridge and was worked extensively by Chinese workers from the late 1880s to early in the 20th century. The gold is controlled by three main structural features such as the axial zone of the Woolwonga Anticline, SE dipping fracture zones and competency contrast sites.

The titles comprise 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.
Newmarket 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. These titles along with the Exploration title EL23270 and several sub-blocks of EL25748 were included in this relinquishment process.
2 COPYRIGHT

This document and its content are the copyright of Newmarket Gold Inc. The document has been written by Mark Edwards 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 Woolwonga Mineral Group of tenements are located approximately 130 km SE of Darwin, Northern Territory, and 16 km NE of the Brocks Creek mine office (Figure 3-1). The tenements were discovered in 1871 and were worked by underground method, producing 205 kg of gold. During 1990-95 mining operation by Dominion Mining Limited, it produced 4 tonnes of gold. Newmarket Gold Inc. acquired the project and regards it highly due to its potential.

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

The Woolwonga Mineral titles form part of the Burnside Mining Group report GR187/11 which has reported on exploration activities since 2011. Prior to this time these titles were reported individually.

Limited on ground work has been completed on the Woolwonga deposit over the past few years; previous owners have conducted some exploration since modern mining ceased in 2003.

Since 2009 Newmarket Gold has conducted around 44 line kilometres of VTEM geophysical surveys, purchase GeoEYE satellite imagery and conducted detailed document reviews and site visits. Generally this work has been remote with little on ground work completed by Newmarket Gold since 2009.
Figure 3-1 Woolwonga MCN’s Regional Location Map
4 LOCATION AND ACCESS

The Woolwonga Mineral titles are situated 140km SE of Darwin NT and 18km ESE of Brocks Creek siding on the Darwin-Alice Springs railway. Access to the titles 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 McKinlay River 1:100,000 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 4-1 Location of Woolwonga Titles
5 TENEMENT DETAILS

The Woolwonga tenement details are listed in Table 1. Prior to 1984 the project was owned by Australian Coal and Gold. Dominion Mining Limited and Geopeko entered into a JV agreement with them and by 1988 Dominion had bought out the other parties.

The Woolwonga tenements were granted to Dominion Mining Limited in 1990. The tenement group was transferred from Dominion to Territory Goldfields N.L. in May 1995. The tenements were transferred to the Burnside Joint Venture (as 50% Territory Goldfields / 50% Buffalo Creek Mines) on 22nd October 2003. GBS Gold acquired Northern Gold NL in late 2005, and purchased Harmony’s 50% share of the Burnside JV, thereby, GBS Gold controlling 100% of the Burnside Project.

Several MCN’s have expired but were not renewed as they we classed as non-compliant titles under the Mineral Titles Act 2012.

<table>
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<tr>
<th>Tenement</th>
<th>Area</th>
<th>Area (km²)</th>
<th>Grant Date</th>
<th>Expiry Date</th>
</tr>
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<td>19/08/2016</td>
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<td>MCN3707</td>
<td>39.9</td>
<td>0.4</td>
<td>17/10/2016</td>
<td>19/08/2016</td>
</tr>
</tbody>
</table>

Table 5-1 Woolwonga Mineral Lease Details
6 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). EL23270 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 fluviatile 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 Finnis 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 6-1 Regional Geology for the Burnside Project
6.2 LOCAL GEOLOGY

The Woolwonga Mineral titles 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 report 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 overlap 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 6-2 Woolwonga MCNs Local Geology Map
7  EXPLORATION ACTIVITIES PRE-2009

For the years prior to 2009, the Woolwonga Titles were held by other companies; however a summary of the work they completed is outlined below;

The Woolwonga gold mine was actively worked between 1889 and 1900 with a recorded production of 205kg (6,604oz) of gold from 7,457t of ore. The mine was abandoned in 1901 owing to the lower recoveries and grades met in the primary mineralisation, and water inflow into the deeper levels. From 1907-1908 a further 26kg (833oz) of gold was recovered from cyaniding 4,600t of tailings. From 1970 to 1982 the property was evaluated by several companies for both bedrock and alluvial gold potential.

In 1982 Australian Coal and Gold Holdings Ltd commenced a mapping and bulk sampling program of the alluvial deposits. The investigation indicated a potential near surface alluvial/eluvial reserve 305,000 cubic metres in the range 0.1 to 0.7g per cubic metre.

In 1984 the Golden Dyke Joint Venture comprising Geopoko and Anaconda commenced mapping, costeining and diamond drilling. In 1985 Dominion Mining Limited replaced Anaconda as manager of the JV and commenced diamond drilling to evaluate the open pit resource potential. The combined drilling data indicated a resource of 500,000t @ 3.0g Au/t. Further mapping and costeining in 1986 and 1987 indicated a potential to increase the tonnage significantly and during 1987 two major reverse circulation percussion drilling programs were completed. This delineated an in situ geological resource of 2.48Mt grading 2.48g Au/t, comprising an oxide component of 737,000t @ 2.98g Au/t and 1,741,000t of sulphide mineralisation at 3.5g Au/t. A feasibility study indicated a recoverable mining reserve of 2.1Mt @ 2.78g Au/t. In 1989 further RC drilling indicated a global resource of 5Mt @ 3.0g Au/t.

During the 1989 field season work at Woolwonga was orientated towards pre-development activities with RAB drill sterilization and groundwater investigations being completed. Exploration over MLN 1103 was limited to core drilling for geotechnical information, metallurgical samples and assay verification of previously drilled RC percussion holes to enable a final pit design to be completed. The drilling results obtained by Dominion Gold Operations Pty. Ltd. indicated that large tonnage deposits were restricted to the Woolwonga Anticline, but smaller ore bodies occur on the Central and Western Ridges (Dominion, 1989).
Mining on the Mineral Leases was reported between August 1991 and October 1994 by Dominion Mining. All the ore was transported to the Cosmo mill via a sealed haul road purposely built for the Woolwonga Mine. Production statistics available from the Cosmo mining records showed a total of 2.9 million tonnes of ore was mined from the three pits (Reward, Wilson and West Ridge #3). The average grade of the material mined was 2.32g/t which suggests around 217,000 ounces (6,758kg) was mined from the deposit. Reconciliation data is not available to assist with determining the number of ounces produced through the mill from the records currently held.

Northern Gold NL through Territory Goldfields NL acquired the tenements in May 1995 on the completion of Dominion’s mining phase. Prior to formation of the Burnside JV, work mainly comprised data reviews. In April 2002 Territory Goldfields NL entered into a joint venture (Burnside JV) with Buffalo Creek Mines P/L. In 2002-2003 the Burnside Joint Venture conducted a ranking study and a structural and resource review. The deposit was ranked as medium priority and its potential to host additional economic gold mineralisation was acknowledged. A computerised study (Leapfrog Software) of gold distributions drew attention to south plunging bodies of higher grade that could form a focus for future exploration. It was concluded that there was scope for residual mineable tonnes at the project but the rehabilitation and pit backfilling had made a new evaluation more difficult and expensive.

In 2003-2004 the JV carried out a program of exploratory RC drilling on the Empire target, SE of the main workings. The program comprised 6 holes for 420m. (SET-001 to SET-006). SET-004 was the most successful hole, including 10m @ 6.97 g/t Au from 73m.

In 2004-2005 the JV carried out a programme of vertical RAB drilling along the SE strike extension of the Woolwonga Anticline. The RAB drilling comprised 30 holes for 568m on MLN1103. The results were disappointing, with a maximum 1m gold value of 0.16g/t Au at 20-21m in hole SWB-009.

During 2007-08 reporting period, a total of 42 Air Core holes were drilled for 869 metres to test the expression of gold mineralisation towards southeast of the present pit (Bajwah, 2008). Axial zone of SE plunging anticline was targeted for further extension of gold mineralisation of the Woolwonga deposit located within MLN 1103. Assay data showed that Au contents varied from 0.001 to 1.52 ppm.
During most of 2008 to 2009, GBS Gold Australia remained under voluntary administration. A technical review, tenement ranking and evaluation were undertaken to prepare assets for sale. Some field visits were also undertaken. All assets including the Woolwonga mining leases were transferred to Newmarket Gold in November 2009.

7.1 EXPLORATION ACTIVITIES 1 JANUARY 2010-19 AUGUST 2016

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

During 2011-12 exploration over the Woolwonga mining tenements consisted of a project review, a high resolution VTEM survey (for around 44 line kilometres) and the collation and scanning of historic documents and reports archived at the Brocks Creek document library.

Preliminary results from the VTEM survey, highlights the geophysical high of the Woolwonga gold deposit (Figure 7-1). Further analysis of the data is required to determine if any new anomalies exist.

Figure 7-1 Woolwonga Aerial Magnetic Survey
In 2012 Newmarket Gold purchased GeoEYE satellite imagery which covered this title and around the Woolwonga Mine, plus reviewed the historic geochemical sampling and geophysical work completed on the title in conjunction with the detailed review of the 2011 VTEM survey including target generation. The document review database continued during the year with a planned completion date in 2013. Also during the year Newmarket Gold conducted prospectivity mapping and analysis.

Figure 7-2 Prospectivity analysis for Burnside Project

No work was completed on these titles from 2014 to 2016 outside reporting and the continued review and ranking of projects such as the Woolwonga deposit.
REFERENCES


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

