BURNSIDE OPERATIONS P/L

ANNUAL EXPLORATION REPORT

EL23536

"MT OSBORNE"

YEAR ENDING 28th July 2005

BATCHELOR 1:100,000 SHEET

Buffalo Creek Mines P/L, Territory Goldfields NL

Distribution:-

1. **DBIRD Darwin NT**
2. **Northern Gold NL Perth**
3. **Burnside Operations P/L Brocks Creek**
4. **Harmony Gold (Australia) Perth**

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SUMMARY

EL23536 of 22 blocks is located 140km SE of Darwin, NT and surrounds the Brocks Creek mining tenements adjacent to the Darwin-Adelaide railway.

The tenement is subject to the Burnside Joint Venture, managed by Burnside Operations P/L comprising Territory Goldfields NL and Buffalo Creek Mines NL. The latter are subsidiaries of Northern Gold NL and Harmony Gold (Australia) P/L respectively.

The licence covers a variety of Lower Proterozoic geosynclinal metasediments and dolerite sills that are ascribed to the Burrell Creek and Mt Bonnie Formations. The rocks are asymmetrically folded along north-westerly striking axes and have been dislocated by reverse faults sub parallel to the fold axes. Within the adjacent and contiguous Brocks Creek gold project tenements are several open pits and underground workings that since 2002 have been extensively explored by the Burnside Joint Venture. The joint venture has identified several potentially economic gold deposits at Brocks Creek and is continuing its resource development activities in the area.

This is the second year following grant of the licence and the annual expenditure was set at $950.00.

Work on EL23536 has been subordinate to activity on other JV tenements as the emphasis has been on establishing gold resources at established mineralised prospects with a view to production using a local treatment facility. The joint venture purchased the Union Reef mill and tenements in August 2004, which would allow rapid commencement of mining and treatment of Burnside's advanced stage gold deposits already proven by RC drilling and modelling.

Expenditure during 2004-05 comprised further structural interpretation with a view to prioritising exploration targets. Work included a reporting component that is a natural extension of work on adjacent MLN1139. This amounted to $1,320.00.

Parts of the tenement are optimally located to cover extensions to prospective gold-bearing structures that are known within the Brocks Creek and Fountain Head tenements. The tenement requires reconnaissance screening for favourable lithologies and structures supported by rock chip sampling. Work has started cataloguing and interrogating the historical data in the Brocks Creek library with the objective of advancing the level of understanding of both previous work and the prospectivity of the ground.

For 2005-06 an exploration budget has been allocated to grass roots exploration in the Burnside Region. Within EL23536 this expenditure comprising geological mapping, soil sampling, rock chip sampling and data compilation will amount to $3,500.00.

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1.0 INTRODUCTION

EL23536 (Mt Osborne) was applied for to cover vacant ground adjacent to the joint venture's core Brocks Creek mining tenements. The tenement has just completed its second anniversary since grant.

The Burnside Joint Venturers comprising Buffalo Creek Mines NL and Territory Goldfields NL have other mineral assets in the immediate area and at Pine Creek. The partners have recently purchased the Union Reef treatment plant and exploration tenements.

Since April 2002 the joint venture has carried out extensive drilling programs on joint venture tenements in the Burnside region and developed the Zapopan underground mine in 2003. At the Cosmo Howley deposit, consecutive diamond drilling programs between 2003-2005, testing the deeper mineralisation, has outlined 1 million ounces of gold in situ.

This report deals with exploration activity carried out on EL23536 during the year ending 28th July 2005.

2.0 TENURE DETAILS

EL23536 was granted on 29th July 2003 and expires on 28th July 2009. It comprises 22 blocks that cover approximately 70.84sq.km. The component blocks are considerably fragmented and reduced in effective area by pre existing titles. A waiver from second year reduction was approved until the end of year 3. See Fig. 2.

It is registered in the names of Territory Goldfields NL and Buffalo Creek Mines NL in equal shares. Both companies are signatories to the Burnside Joint Venture.

The expenditure covenant set for this, the second year, was $950.00.

3.0 LOCATION AND ACCESS

EL23536 is situated 140km SE of Darwin NT and partly surrounds MLN1139 and links other component tenements of the Burnside Joint Venture.

The title lies on part of pastoral leases Douglas (Tovehead Pty Ltd, Branir Pty Ltd) and Ban Ban Springs (Ban Ban Springs Station Pty Ltd) Native title rights are administered under the Northern Territory Land Corporation.

The tenement is long in the east-west dimension (18km) and fragmented into four parts by pre existing tenure. Access to the central sector may be achieved vial the Fountain Head road northeastwards from the Stuart Highway. The westernmost block lies close to the Stuart Highway, and the northern sectors may be accessed via the Brocks Creek mill

access road that runs east-west on the north side of the railway. The Mt Osborne transmitter mast service road also crosses the tenement.

4.0 GEOLOGICAL SETTING

4.1 Regional Geology

EL23536 is 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 minor inter-layered tuff units. Pre-orogenic mafic sills of the Zamu Dolerite event (~1.87Ga) intruded the lower formations of the South Alligator Group and part of the Mt Partridge Group.

During the Top End Orogeny (Nimbuwah Event ~1.87-1.85Ga) the sequence was tightly folded and pervasively altered. 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 ~1.84-1.80Ga. These high temperature I-type intrusives induced strong contact metamorphic aureoles ranging up to (garnet) amphibolite facies, and created more extensive biotite and cordierite-andalusite hornfels facies.

Open-folded Middle and Late Proterozoic clastic rocks and volcanics have an unconformable relationship to the older sequences. Flat lying Cambro-Ordovician sandstone and limestone of the Daly River Basin along with hill-cappings of Cretaceous arenites overlie the folded basement.

Cainozoic sediments and proto-laterite overlie parts of the Pine Creek Geosyncline lithologies. Recent scree deposits occupy the lower hill slopes while fluviatile sands, gravels and red and black soil deposits mask the river flood plain areas.

Cainozoic to Recent erosion of the cratonised basement has resulted in the formation of hills and ridges largely stripped of Tertiary regolith.

4.2 Local Geology

The tenement encloses a sequence of Lower Proterozoic metasediments ranging from South Alligator Group to Finniss River Group with the latter predominating and represented by Burrell Creek Formation greywackes and arenites.

The western and central sectors of the tenement have been folded along axes trending north westerly and with the north eastern anticlinal limbs steep to overturned and locally sheared out by SW dipping reverse faulting.

Towards the eastern sector of the tenement near Mt Osborne and Yam Creek-North Point, the fabric has adopted an arcuate strike swing to northerly and then north-north easterly. This NNE trend sub parallels the domain of the Hayes Creek Fault system.

Secondary fractures striking NE and NW cross the fold axes and are thought to be important gold localisers in the Brocks Creek-Zapopan shear zone. Similar fractures cut the eastern sector fabric and also may be mineralisers.

4.3 Mineralisation and Prospectivity

Within the region there is a tendency for gold mineralisation, dated at ~1740Ma, to be overprinted on pre existing anticlines within spotted hornfelsed strata of the South Alligator Group and lower parts of the Finniss River Group. This often cyclic sequence evolved from initial low energy shallow euxinic basinal sedimentation to higher energy deeper water flysch facies.

EL23536 is well positioned to host favourable sets of fold and cross fracture settings. The optimal conjunction of South Alligator Group sequences and north east or north west fracture sets may be less common in the south due to the prevalence of Burrell Creek Formation coarse clastics. Nevertheless it is possible that fold crests and reverse faults could bring Mt Bonnie Formation units, or older, to the surface under cover particularly in the far eastern and northern sectors.

A study of the magnetic image shows one area 3km north west of Fountain Head to be very well placed, while areas south and SW of Faded Lily and north west of Yam Creek are also promising.

5.0 PREVIOUS EXPLORATION

The area is peripheral and contiguous to the highly prospective Brocks Creek, Fountain Head and Yam Creek gold mining centres. As such, parts of EL23536 would likely have been included in geological mapping, prospecting, stream sediment, rock chip, and soil sampling by previous explorers including Solomon Pacific, Acacia Resources and Zapopan NL.

Regional airborne magnetic and radiometric coverage of large parts of the area have been carried out under Acacia Resources, and at larger scale, complete coverage by multiclient surveys and more regionally by AGSO.

Further research is needed at Brocks Creek where the library is likely to contain further details of work done in the area. The computer database needs to be more fully updated and integrated with the historic exploration data.

6.0 EXPLORATION Year Ending 28th July 2005

6.1 Introduction

During the period the Joint Venture continued its exploration and resource development focus in the vicinity of the Cosmo Howley, where several diamond drilling contracts were commissioned to test the gold mineralisation beneath the open pit and down plunge. The most recent work is still being collated. Programs earlier in the year outlined an in situ 1 million ounces of gold. Further RC drilling and modelling was undertaken at Woolwonga Fountain Head. The Zapopan decline workings and infrastructure have been kept on care and maintenance in readiness for production.

In August 2004 the Joint Venture purchased the mill and tenement package at Union Reefs. At the same time the older and smaller mill at Brocks Creek was sold to Tanami Gold NL. Following on from the purchase of Union Reefs, the joint venture carried out RC drilling programs at its Pine Creek project tenements.

Work on EL23536 was subordinate to the above activity, however by means of remote sensing, several areas within the tenement have been identified as prospective. Field work on these is proposed to be carried out in the coming tenement year.

6.2 Remote Sensing Study

During the year the remote sensing study on **EL23536,** that commenced in 2003-2004, was further enhanced by geological interpretation.

Combined with the reinterpretation of the **airborne magnetic image** Fig. 3, it can be seen that the north west striking fold axes have been truncated by probable reverse faults sub parallel to the axial zones. In addition there are swarms of NE cross fractures cutting the axes. These are believed to link sites of gold mineralisation where favourable host lithologies are present, such as Mt Bonnie Formation and sheared contact zones with .Zamu Dolerite.

More favourable South Alligator Group lithologies are present in the eastern most blocks of the tenement, near to the Yam Creek-North Point mining centre where strikes are north westerly, parallel to the Fountain Head mineralised axial trend. To the west of Fountain Head several lineaments within EL23536 intersect poorly outcropping Mt Bonnie Formation, and this area is considered a priority target. See Fig.4.

7.0 FORWARD PROGRAM 2004-2005

With the acquisition of the Union Reef mill and tenements it is expected that exploratory work at Brocks Creek will escalate in line with the progression of advanced stage resources towards production. It is proposed that the tenement be subjected to reconnaissance mapping, rock chip sampling, soil sampling and air photo interpretation focusing on targets already flagged for follow up in the north and east. The historic data held at the Brocks Creek office is to be further investigated with a view to establishing the totality of previous work and designing the next phase of exploration.

This work is costed at $3,500.00.

8.0 REFERENCES

BMR Geological Maps, Batchelor, McKinlay River and Pine Creek 1:100,000.1985.

SPOT and Magnetic images, Northern Gold NL 1996.

Shaw. J.A. 2004. Annual Exploration Report EL23536, Year Ending 28th July 2004. For DBIRD.