ANNUAL EXPLORATION REPORT
EL23540

FOR PERIOD ENDING 16th FEBRUARY 2006

‘SAUNDERS CREEK’
BURNSIDE PROJECT NT

Pine Creek SD5208 1:250,000
Pine Creek 5270 1:100,000
Burrundie (14/6-IV) 1:50,000

Titleholders: Buffalo Creek Mines Pty Ltd 50%
Territory Goldfields NL 50%

GBS Report No. PC/BJV/06/11
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CONTENTS

1. SUMMARY
2. LOCATION AND ACCESS
3. TENEMENT STATUS AND OWNERSHIP
4. GEOLOGY
5. PREVIOUS EXPLORATION
6. EXPLORATION DURING CURRENT TENURE
7. PLANNED EXPLORATION FOR 2006
8. REFERENCES
9. EXPENDITURE

List of Figures

Figure 1  Tenement Location Map (Plan BJV007)
Figure 2  EL23540 Fracture Analysis
1. SUMMARY

EL23540 is east of the Yam Creek tenement group, on the eastern side of the Burnside JV. The dominant geology within the tenement is Koolpin Formation sediments and Zamu Dolerite, which hosts Cosmo-style mineralisation.

In the first 3 years of tenure work has consisted of a SPOT imagery / magnetics interpretation to determine structural trends in the area, plus a review of work done by previous explorers. Geochemical data will be integrated into DataShed.

Work on integrating data into DataShed will continue as part of GBS’s regional data management programme. Planned fieldwork will involve ground checking/ geological mapping to check the structural interpretation, and some geochemical sampling.

2. LOCATION AND ACCESS

EL23540 is situated 150km SE of Darwin NT and 5km SE of Grove Hill on the Darwin-Adelaide railway.

Access to the tenement is via the Stuart Highway, thence north via the Grove Hill unsealed road that passes west of the tenement. Access can be gained via bush tracks that peel off north from the Mt Bonnie access road, towards Iron Blow. Alternatively tracks lead into the tenement south from the railway line east of Grove Hill (Figure 1). The headwaters of the Margaret River and Saunders Creek pass through the tenement and flow northwards.

The tenement falls on the Pine Creek 1:250,000 sheet and on the Burrundie 1:50,000 sheet. The tenement also is within the Douglas Pastoral Lease.

Apart from the course of Saunders Creek that passes through the eastern half of the ground, outcrops occur through much of the tenement, comprising undulating hills and ridges of low to moderate relief. The western sector of the ground in particular host units of the Zamu Dolerite and Gerowie Tuff and is the most elevated and dissected.

The eastern half of the tenement is more topographically subdued and is affected by Saunders Creek and its black soil alluvial deposits.
3. TENEMENT STATUS AND OWNERSHIP

EL23540 was granted on 17th February 2003 and expires on 16th February 2009. It comprises five blocks that cover approximately 16.1 sq. km (Figure 1).

It forms part of the eastern boundary of tenement holdings comprising the Burnside Joint Venture and is registered in the names of Territory Goldfields NL and Buffalo Creek Mines NL in equal shares. It is unencumbered by third party tenements. The Burnside JV comprised 50% Northern Gold NL, and 50% Harmony Gold. GBS Gold made a successful takeover of Northern Gold NL during 2005, and entered into an agreement to purchase Harmony Gold’s 50% share of the JV. GBS will have 100% ownership of the Burnside Project by April 2006.
4. GEOLOGY

Regional geology is outlined in many publications, notably Ahmad et. al., (1994), and Needham and Needham and Stuart-Smith (1984), and Needham et. al (1988). The tenements are within the Pine Creek Geosyncline, a folded sequence of Lower Proterozoic pelitic and psammitic sediments, with interlayered cherty tuff units. Mafic sills of the Zamu Dolerite (~1.87Ga) intruded lower formations of the South Alligator Group.

The tenement encloses a sequence of South Alligator Group sediments that lie on the northern sector of the Burrundie Dome. The Margaret Syncline lies to the west and separates the Burrundie Dome from the Yam Creek sequence. To the east of the tenement the irregular, and perhaps shallow west-dipping Prices Creek Granite contact, terminates the South Alligator strata.

Within the tenement the South Alligator Group is represented by Koolpin Formation and Gerowie Tuff, both of which were extensively intruded and concordantly dilated by sills of Zamu Dolerite. All were tightly folded on NNW striking axes during the Pine Creek Orogeny. The folds plunge shallowly to the NNW and locally, in the centre of the tenement, have undergone strike faulting perhaps as a result of axial failure.

5. PREVIOUS EXPLORATION

An unnamed copper occurrence is reported within the tenement (Kitto, 1969). The occurrence is vein-hosted and characterised by chalcopyrite and malachite in quartz veining within siltstones.

Shaw (2005) summarised previous exploration by stating that the area surrounding EL23540 has been explored on a regional basis by Euralba Mining, Geopeko, Dominion Mining Ltd and Zapolan NL. Stream sediment sampling and rock chip work is thought to have been carried out though evidence has yet to be found in the data base held by the Burnside JV. Northern Gold NL and Territory Goldfields have conducted work in the vicinity of Iron Blow and Mt Bonnie North where anomalous rock chips were reported.

Part of the work done on EL23540 for this year is a literature review, and the results are in the section below.
6. EXPLORATION DURING CURRENT TENURE

Shaw (2005) outlined the work done in the first years of tenure, which included a review of the prospectivity of the tenement. The work done included analysis of SPOT imagery, and some structural interpretation (Figure 2).

Observations and conclusions are as follows:

The potential for mineralisation within EL23540 is based on:

a) the abundance of Koolpin Formation comprising mudstone-siltstone-​chert-BIF lithologies, interfolded with Zamu Dolerite has many similarities to host sequences at Golden Dyke-Langleys, Davies, Afgans Gully and Good Shepherd to the south west and at Cosmo Howley some 20km to the west.

b) continuation along strike from the Pickfords Pb deposit, which is located in the axial zone of a faulted fold. Within the tenement area, the axial zone faulting coincides with a change in outcrop abundance, with poorer exposure to the east, in association with the Saunders Creek drainage system.

In terms of localisation of mineralisation, the part played by subordinate late stage fracture sets striking WNW is thought to be relevant in this region. These can be traced on SPOT imagery passing through the vicinity of Yam Creek MCN828 and Iron Blow open pit and progressing ESE across the EL.

As a working hypothesis, the intersection of these fractures, particularly the set marked in red, with favourable lithologies within the strike faulted zone, as well as their continuation under alluvial cover further to the east, could be areas to target for initial reconnaissance exploration for gold and base metals.

In the region of the Saunders Creek valley in the eastern half of the tenement, it is inferred that the Prices Creek Granite may underlie the Koolpin-Zamu sequence at no great depth. In this event it conceptually could have activated hydrothermal fluids along favoured fracture sets where they could have interacted with compatible lithological units. On the other hand the level of thermal alteration facies could either favour or negate the prospectivity.

A more thorough review of previous work within the tenement was carried out, and results are presented here.

Geopeko explored EL3138, of which EL23540 fits totally within the top NW corner of this expired tenement. Geopeko applied for mineral claims over 3 areas showing geochemical anomalism. Work done during the life of EL3138 in the early 1980’s included soil sampling, and rock chip sampling.

EL4817 covered the western 4 blocks of EL23540, but also snaked further south. Cyprus Gold explored EL4817 in the late 1980’s, taking over from CSR who held the
lease in its first year. CSR’s exploration philosophy targetted gold in mafic intrusives (such as the Zamu Dolerite) and exploration included stream sed sampling and rock chip sampling. Cyprus believed that the sulphidic sediments of the South Alligator Group were ideal host units for gold mineralisation. Cyprus carried out interpretations of aeromagnetic data to map major rock units, and identify South Alligator Group sediments. Rock chip sampling and mapping outlined gold-base metal anomalies related to axial zones of anticlines in an area outside EL23540.

**EL6078** covered the 4 western blocks of EL23540. NT Gold outlined 2 magnetic highs, and ‘favourable structural elements’ from aeromagnetic interpretations in the first year, but did no further work in the second year and relinquished the tenement.

Soil sampling conducted on **EL7913** outlined a soil anomaly outside EL23540. The soil anomaly followed an area mapped as Zamu Dolerite, and Au-As values away from the dolerite were low.

**EL9201** covered 3 western blocks of EL25340, and was held by Bob Biddlecombe. Exploration during the life of the tenement was ‘marginal’, with some rock chip sampling and panning of samples. Some elevated assay values were obtained but further work was not carried out.

None of the geochemical data is available in digital format.
7. PLANNED EXPLORATION FOR 2006

The work done during the life of the tenement indicates that the tenement has favourable structural elements and host rocks for hosting mineralisation similar to Cosmo, Golden Dyke etc. The review of previous work shows that there has been little fieldwork, with no drilling, no mapping, sparse rock chip sampling and stream sed sampling.

Work planned for the next year includes geological mapping to identify (on the ground) structural elements that may be favourable to mineralisation, and compare with the results from aeromagnetic and fracture analysis interpretations. The results will be used towards ranking the area against other regional prospects, and planning drilling. Drilling within the next year of tenure will depend upon rig availability and the prospectivity ranking of the tenement against other GBS tenements.

Data integration into DataShed will also be ongoing as part of a regional programme. At this stage none of the previous geochemical work has been put into DataShed.

Expenditure is expected to be at least $5000.
8. REFERENCES


9. EXPENDITURE
See attached.