Burnside Operations P/L
ANNUAL EXPLORATION REPORT

“DAVIES” PROSPECT
MCN 4267

Year Ending 11\textsuperscript{th} May 2004

Burrundie (14/6-IV) 1:50,000

Title Holders:-
Northern Gold N.L. and Star Money Lenders Pty. Ltd

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DBIRD Darwin NT
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MCN 4267 is located 15 km southeast of the Brocks Creek Mill Site and 500m north of the Golden Dyke Open Pit, on the Burrundie 1:50,000 sheet.

The Golden Dyke region, contains some of the earliest worked gold deposits in the Northern Territory, and was first prospected for alluvial gold in 1872.

Geologically the area is underlain by units of the Lower Proterozoic Koolpin Formation, the lowest member of the South Alligator River Group.

A small resource of gold mineralisation outlined by RC and diamond drilling has a 60m strike length, averages 2m in width and is estimated at 49,000t @ 2.58g Au/t. The deposit is concordant and tabular, hosted by a quartz veined, sulphidised carbonaceous shale that dips steeply west. It is possible the shale has a refractory component. Fault lineaments striking NW and NE have been interpreted as the locus of mineralisation.

The 9.58ha tenement is now managed by the Burnside Joint Venture through Burnside Operations Pty Ltd.

The tenement is at an advanced stage of exploration maturity and comprises part of the joint venture’s schedule of gold resources that are planned for mining and treatment when economic conditions allow. Exploration work has been continuing at a strong level at the joint venture’s Zapopan, Cosmo Howley, Fountain Head and Woolwonga properties. The Davies prospect is reviewed constantly in line with changing economic circumstances. At present, due to its small size, narrow widths and location, it is relatively low in the priority ranking table.

During the year remote sensing data was interpreted to identify lineaments controlling mineralisation at Davies. Annual reporting required further technical input.

The expenditure for the 2003-2004 tenement year totalled $300.00
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1.0 INTRODUCTION

MCN4267 is modest in size at 9.58 hectares and has been intensively drilled and trench by several companies since 1980, and most recently explored by Northern Gold NL.

A small resource has been outlined from this work that is presently too small to be an economic stand-alone operation but comprises part of the total resource inventory of the Burnside Joint Venture.

The property is managed by the Burnside Joint Venture comprising assets of Territory Goldfields NL and Buffalo Creek Mines NL. It has the objective of developing, mining and treating gold resources that are in the vicinity of the Brocks Creek milling facility. MCN4267 is considered in this context as a potential source of mill feed but is low on the priority list at present.

2.0 LOCATION AND ACCESS

MCN 4267 is located 15km SE of the Burnside JV treatment plant at Brocks Creek, on the Burrundie (14/6-IV) 1:50,000 sheet.

The mineral claim lies between latitudes 13°33′30″ south and 13°34′30″ south, and longitudes 131°30′30″ east and 131°31′ east (Figure 1). It is situated within Pastoral Lease No. 903, Douglas, held by Tovehead Pty. Ltd. Access is via the Grove Hill and Sandy Creek Roads or via the Stuart Highway and Sandy Creek Road.

3.0 TENEMENT DETAILS


A renewal was granted over MCN 4267 on the 15th of June 1995, for a period ending on the 11th of May 2005. In July 1996, Northern Gold N.L. elected to earn an 85% interest in the tenement.

Under the terms of the Burnside Joint Venture, formed in April 2002, the tenement is managed by Burnside Operations Pty Ltd and comprises shared assets of Buffalo Creek Mines P/L and Territory Goldfields NL.
4.0 GEOLOGY

4.1 Regional Geology
The tenement group 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, either associated with the regional scale Cullen Batholith or as discrete plutons, 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 basinal sedimentation to higher energy deeper water flysch facies. A water-lain tuffaceous component is present and the prospective sequence has been intruded by pre orogenic mafic sills.

Less deformed Middle Proterozoic sedimentary and volcanic sequences unconformably overlie the Lower Proterozoic. In the region, Cambro-Ordovician lavas and sediments of the Daly River Group, as well as Cretaceous strata, onlap the older sequences.

Cainozoic sediments, laterite and Recent alluvium may obscure parts of the Pine Creek Geosyncline lithologies, but exposure of the more resisinate units of the prospective sequence is generally good.

4.2 Local Geology
MCN 4267 is underlain by units of the Koolpin Formation, the basal member of the South Alligator Group. The Koolpin Formation comprises shallow to moderately deep water basinal sediments including carbonaceous shale, nodular iron formation facies and greywacke facies rocks.

Sills of Zamu Dolerite intruded and dilated the Koolpin Formation and later folding resulted in a shallow northerly plunging anticlinal fold whose axis strikes 25 degrees magnetic. (Golden Dyke Dome) The tenement lies on the western limb of the fold.

Sinistral faulting striking 60 degrees magnetic has offset the fold axis within the tenement and is thought to have influenced gold localisation. This is complemented by an intersecting fault lineament striking NW.
Gold mineralisation is within a bedding-concordant west dipping structure that comprises a quartz veined carbonaceous shale striking 340 degrees. The better grade mineralisation is one to two metres in thickness, and dips 70 degrees westerly.

The strike extent of the best mineralisation appears to be in the vicinity of 60m.

5.0 PREVIOUS EXPLORATION

The Golden Dyke area, containing some of the earliest worked gold deposits in the Northern Territory, was first prospected in 1872, after the initial discovery of alluvial gold. Early production was largely derived from outcropping reefs and alluvial deposits.

Various companies have extensively and systematically explored the Golden Dyke Dome, since the early 1900’s. These include, Golden Dyke Mining N.L., Anglo-Queensland Mining Pty. Ltd., Geopeko, Anaconda Australia, C.R.A.E., Oceania Exploration and Mining N.L., Zapopan N.L., Henry and Walker Ltd., Harlock Pty. Ltd., Eupene Exploration Enterprises, Kintaro Resources Ltd., Mount Bonnie Gold Unit Trust, Dominion Gold Operations Pty. Ltd. and Northern Gold N.L.

**Geopeko 1980** conducted a thorough exploration program over the Davies Prospect. This work consisted of costeaneing, rock chip sampling, mapping and diamond drilling (Nicholson, 1981). Channel sampling of costeans identified a narrow, high grade zone of bedrock mineralisation in a siliceous gossan. Assay results returned up to 13.1 g/t Au within a strike length of 60m. The mineralisation was reported as hosted by a thin bed of carbonaceous shale in Koolpin Formation.

Five diamond drill holes (S12, S17, S18, S19, S20), totalling 746.69m, were also completed at Davies No. 1 Prospect. This confirmed promising grades of mineralisation over a strike length of approximately 60m, with a width of 1 to 2m.

The best intersections were, 1.5m @ 36.0 g/t Au from 76.2m in S12, 1.14m @ 2.75 g/t Au from 105.16m in S17, and 0.65m @ 4.7 g/t Au from 126.7m in S19 (Nicholson, 1981).

**Northern Gold N.L 1994/95** completed scout RC drilling, follow up RC drilling and costeaneing over the Davies No. 1 Prospect, located within MCN 4267.

The scout RC drilling program, completed in October 1994, was designed to test the reliability of previous diamond drilling results and strike continuity of Au mineralisation (Hardy, 1994). The program was also aimed at testing the potential for mineralisation in sedimentary rocks overlying a footwall dolerite sill, below the main zone of mineralisation.
A total of 7 RC drill holes (DV1 - DV7) were completed for 472 metres, along four lines. All samples, collected at 1m intervals, were submitted to Assaycorp, in Pine Creek, for 50 gram fire assay, quartz-flush Au analysis.

The program intersected high-grade mineralisation previously identified in diamond drill holes S12, S17 and S19. The best intersections are listed in Table 1.

**Table 1  1994 Davies No. 1 RC Drilling Program Best Intersections**

<table>
<thead>
<tr>
<th>Hole Number</th>
<th>From (m)</th>
<th>To (m)</th>
<th>Width (m)</th>
<th>Grade (g/t Au)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV3</td>
<td>21</td>
<td>23</td>
<td>2.0</td>
<td>8.00</td>
</tr>
<tr>
<td>DV4</td>
<td>33</td>
<td>34</td>
<td>1.0</td>
<td>13.95</td>
</tr>
<tr>
<td>DV5</td>
<td>12</td>
<td>14</td>
<td>2.0</td>
<td>20.70</td>
</tr>
<tr>
<td>DV6</td>
<td>42</td>
<td>45</td>
<td>3.0</td>
<td>4.72</td>
</tr>
<tr>
<td>DV7</td>
<td>18</td>
<td>20</td>
<td>2</td>
<td>8.3</td>
</tr>
</tbody>
</table>

The previous diamond drilling and the RC drilling results suggested that the mineralisation had a maximum strike length of 60m. The results from the RC drilling program confirmed the mineralisation is 1 to 2m wide and dips steeply to the west (Hardy, 1994).

The underlying dolerite-sediment target exhibited well developed quartz and pyrite, arsenopyrite, chlorite and minor tremolite alteration, however the assay results indicated that there was no associated gold mineralisation.

Northern Gold N.L. April/May 1995 completed a follow up RC drilling program and a trenching program over the Davies No. 1 Prospect. The program was aimed at defining the dip and strike continuity of the mineralisation, and to close off the mineralisation to the south.

A total of 25 RC drill holes (DV8 – DV32) were completed for 1,639m, on ten sections. All samples, collected at 1m intervals, were submitted to Assaycorp, in Pine Creek, for 50 gram fire assay, quartz-flush Au analysis.

The best intersections reported were 1m @ 6.63 g/t Au from 23m in DV31, and 3m @ 3.97 g/t Au from 12m in DV13 (Mottram, 1999b).

The holes drilled to the south of the 1994 program returned poor results.

Northern Gold N.L. also excavated 2 trenches (DVC1 and DVC2), for 41m at the Davies No. 1 Prospect. A total of 41 channel samples were collected over 1m intervals east to west and submitted to Assaycorp, in Pine Creek, for fire assay Au analysis. The best interval from DVC1 was 2m @ 3.51 g/t Au from 5m, and the best result obtained from DVC2 was 2m @ 0.38 g/t Au from 2m.
Northern Gold N.L. 1996 The company completed block modelling and ore resource calculations, based on RC drilling data over the Davies No. 1 Prospect.

The gold resource at Davies No. 1 was estimated using a model for 70m vertical depth and a top cut of 10 g/t with a 0.7 g/t lower cut off, resulting in a resource of 49,490 tonnes @ 2.58 g/t Au.

Northern Gold N.L. 1998/99 commissioned a review, including MCN4267, to appraise the Golden Dyke Project Area for additional gold mineralisation and possible farm-in style joint venture agreements.

Northern Gold NL entered into a JV agreement with Buffalo Creek Mines NL in April 2001. In the interval 2000-2003 the property has been the subject of technical and ranking reviews while extensive exploratory drilling and underground development was conducted at Zapopan. Diamond drilling and resource modelling was carried out at Cosmo Howley. The Davies prospect is ranked low, but is being considered as a potential source of supplemental mill feed for the planned Brocks Creek operation.

6.0 WORK COMPLETED 2003 - 2004

The tenement has been extensively explored in recent years by drilling, trenching and resource estimation work by Northern Gold NL and previous explorers. This work has shown that the tenement contains a small steeply dipping oxide gold resource some 60m in strike length and averaging 2m in thickness. This is now part of the mining inventory of the Burnside Joint Venture.

6.1 Remote Sensing Interpretation

During the year Burnside conducted an interpretive study of SPOT imagery covering the region around the Davies Prospect. See Fig. 2.

The interpretation shows the region to be transected by important NW fracture sets and splays off the Hayes Creek Fault system. The NW faults tend to link mineralised locations along their length, where favourable lithological settings occur. NE fracture sets complement this pattern at the Davies Prospect.

In addition the JV carried out periodic ranking of the MCN as well as statutory reporting. The cost of this year’s work was estimated at $300.00
7.0  2004 - 2005 PROPOSED WORK PROGRAM

During the year it is anticipated that exploratory work and expenditure will be focused on the flagship Zapopan and Cosmo Howley prospects along with other priority one properties in the Burnside Joint Venture. The merits of MCN 4267 will be further reviewed and ranked along with other gold resources in the JV schedule. This work along with reporting duties will amount to $300.00
8.0 REFERENCES


