Burnside Operations Pty Ltd

ANNUAL EXPLORATION REPORT

YAM CREEK GROUP
Year Ending 31st December 2003

MLN 214, 341, 343, 349, 823-832, 858-863 and MLN 940
MCN 46-47, 49-50, 624-625, 898-899, 4428, 4430, 4432, 4434 and MCN 4723

Ban Ban (14/3-III) 1:50,000 and
Burrundie (14/6-IV) 1:50,000

Title Holder:- Territory Goldfields N.L.

Distribution:
DBIRD Darwin NT
Northern Gold NL Perth Office
Burnside Operations P/L Brocks Creek
Burnside Operations P/L Perth Office

Compiled by John Shaw
December 2003
SUMMARY

The Yam Creek tenement report group covers the historically important Yam Creek alluvial and bedrock gold mining centre that is located approximately 150km SSE of Darwin, and 29km east of Brocks Creek railway siding and gold treatment plant.

The tenement group comprising a total of 570.97 hectares was part of an extensive schedule of tenements incorporated into a joint venture with Buffalo Creek Mines P/L in April 2002. Burnside Operations P/L is the management entity.

Burnside Operations P/L was created with the objective of exploring, developing and mining gold deposits within the Brocks Creek region and milling the ores at the Brocks Creek treatment facility.

The area has been the subject of modern gold exploration since the late 1970’s. The more recent exploration, post 1988 was managed by Northern Gold NL and its subsidiaries and Acacia Resources (AngloGold) subject to option agreement.

Since formation of the joint venture the Yam Creek and North Point area has been subjected to reverse circulation drilling programs that were designed to prove up gold resources that could supplement mill feed for a full scale mining operation in the area. The total cost of this work during 2002 was $122,014.

During 2003 a geostatistical consultant was commissioned to conduct a resource study on the North Point and Princess Louise gold deposits. This data has been used to assess the relative economic merits of the schedule of gold resources held by the Burnside Joint Venture. During the 2003 year these reports and support work were costed at $19,923.00.
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1.0 INTRODUCTION

The Yam Creek tenement group has been explored intensively since the late 1970s and contains significant gold resources at North Point and Princess Louise as well as advanced targets at several other locations. Management of the tenement group passed from Northern Gold NL to the Burnside Joint Venture following finalisation of an agreement in April 2002. This report covers work completed during the 2003 calendar year.

2.0 TENEMENT DETAILS

The Yam Creek group consists of 21 mineral leases and 13 mineral claims, covering an area totalling 570.97 hectares. The tenement details are listed in Table 1. The Yam Creek tenements are held by Territory Goldfields N.L. and managed by Burnside Operations P/L under joint venture with Buffalo Creek Mines P/L.

Table 1 Yam Creek Group Tenement Details

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A search of the Heritage Register indicated that no significant sites were within the tenement group.

3.0 LOCATION AND ACCESS

The tenements are located between latitudes 13°28' south and 13°31'30" south and longitudes 131°31'30" east and 131°33'30" east (Figure 1). The prospects are located on the Burrundie and Ban Ban 1:50,000 topographic sheets.

The group is situated within Pastoral Lease No. 903, Douglas, held by Tovehead Pty. Ltd. Access to the tenements from the Stuart Highway is northwards along the Fountain Head road for 23km, then NE along the Grove Hill Road.

The area of economic interest comprises elongate ridges of moderate relief that mark the outcrop of resistate sediments that host the gold mineralisation. Within the ridge domain access is locally compromised by steep sided slopes and erosion gullies. On the adjacent flats and pediment, access is relatively good in the dry season.

4.0 GEOLOGICAL SETTING

4.1 Regional Geology

The Yam Creek tenement group is 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 basinal sedimentation to higher energy deeper water flysch facies. A water-lain tuffaceous component is present and the prospective sequence was intruded by pre orogenic mafic sills.

Less deformed Middle Proterozoic sedimentary and volcanic sequences unconformably overlie the Lower Proterozoic. Cambo-Ordovician lavas and sediments of the Daly River Basin, as well as Cretaceous strata, locally onlap the older sequences.

 Cainozoic sediments, laterite and Recent scree deposits or alluvium may obscure parts of the Pine Creek Geosyncline lithologies, but exposure of the Precambrian rocks is generally good.

4.2 Local Geology

The dominant mineralised structural feature within the tenement area comprises the west limb of the [F1] Yam Creek anticline that dips west at 50-60 degrees. The east limb is steep to overturned and the axis plunges north at 10-30 degrees.

The rocks comprise silt-greywacke-mudstone sediments of the South Alligator Group (Lower Mount Bonnie Formation). These are overlain by Finniss River Group, comprising greywacke (flysch) sediments of the Burrell Creek Formation. The underlying Gerowie Tuff and local sills of Zamu Dolerite are exposed in the south of the area in the core of the fold.

In the vicinity of the Darwin-Alice Springs railway line the northern portion of the anticline appears to have been down-faulted by an ENE trending structure.

Towards the south, the east limb and axis of the Yam Creek anticline is truncated by the Hayes Creek Fault, a regional NE trending structure, and associated fault splays. This has dislocated the Yam Creek anticline from the main part of the Golden Dyke Dome that lies to the south.

4.3 Gold Mineralisation

Auriferous quartz-sulphide veining is associated with two greywacke-dominated packages within the west limb and axial zones of the Yam Creek
fold, particularly where bedding slip, reverse faults and splays cut the limb at shallow angles. Lithological contrasts between silt-mudstone packages and massive greywackes has been a further focusing factor for auriferous quartz veining. Within the finer grained lithologies the veining has sub vertical, perhaps axial planar foliation dips. Within the more massive brittle greywacke horizons the veins take the form of ladder veins or cross fracture sets sub normal to the bedding and dip shallowly eastwards. The upper greywacke-dominated package hosts most of the gold resource.

Refraction of vein dips has been observed passing from one litho-type to the other. The thickness of the finer grained packages appears to be greater at Princess Louise when compared with the North Point sequence.

Much of the Yam Creek area has moderate relief, with greywacke units being resistant to erosion and forming strike ridges. These are separated by steep sided gullies formed within softer siltstone units.

This elevated country forms the watershed between Yam Creek system to the west and the Margaret River floodplain to the east.

At Iron Blow (MLN 214) on the eastern side of the tenements lead-zinc-silver-gold mineralisation occurs in basal sediments (carbonaceous siltstone, shale, greywacke, chert, conglomerate and carbonate of the Mt Bonnie Formation. It is geologically similar to the Mt Bonnie deposit to the south.

The Iron Blow gossan was discovered in 1873 and developed as an underground mine in 1886 when 100t was mined. Between 1898 and 1906 Northern Territory Goldfields of Australia produced 13,700t from underground and surface mining. It was extensively explored between 1957 and 1971 by the BMR, mining companies and NTGS.

A Geopeko-BHP JV explored the deposit from 1975, drilling 15 core holes, 8 of which met with massive sulphide. They estimated that Iron Blow Upper Lode contained 92,000t averaging 400g/t Ag, 8.1% Zn, 3.0% Pb, 0.4% Cu and 4.3g/t gold. The Lower Lode was larger and lower grade comprising 887,500t averaging 87.3g/t Ag, 6.7% Zn, 0.7% Pb, 0.4% Cu, and 1.9g/t gold.

The deposit was open pitted to 40m by Henry and Walker in 1984 and treated at the Mt Bonnie plant. Records show that Iron Blow produced 10,000t of oxide @ 9.0g/t gold and 250g/t Ag and 25,000t of sulphide @ 7.0g/t Au, and 360g/t Ag in this period.

The deposit comprises stratiform massive sulphides oxidised at surface. At depth two lodes are described. The Upper Lode is sphalerite and galena...
rich while the Lower Lode comprises mainly pyrrhotite, pyrite and sphalerite. Both lenses contain minor silver, gold, chalcopyrite and arsenopyrite. The oxide zone was relatively enriched in gold and silver. Both Mt Bonnie and Iron Blow coincide with significant airborne magnetic anomalies. No other comparable anomalies occur in the area which appears to downgrade the potential for repetitions of these stratiform perhaps syngenetic deposits.

5.0 PREVIOUS EXPLORATION

5.1 Historic Activity

The Yam Creek region was historically one of the better known bedrock and alluvial gold mining areas in the Northern Territory. The first significant reef gold discovery, the Priscilla Reef, was made in 1872. This was followed by a period of intense mining activity, which continued until the early twentieth century. The district was famous for its gold nuggets, the largest being 700 ounces (22.5 kilograms). The alluvial deposits in the North Point area were worked by Chinese miners late last century.

By 1901 a three compartment shaft had been sunk at Yam Creek with two cross cuts driven west at 42m and 62m as a prospecting exercise. The lodes met with in the 62m cross cut were reported to average 5.0 g Au/t over a width of 20m.

In 1937 it was reported (Cottle) total production from the field was 29,000t for the recovery of 10,501oz. Most of this was thought to have been from stopes off the Yam Creek cross cuts.

The Princess Louise mine further south along the Priscilla Line was reported in 1891 as having produced 2,422t @ an average recovered grade of 51.0g Au/t. The gold was recovered from east dipping (50 degrees) quartz-sulphide veins within a west dipping greywacke unit, 4m thick. The shoots were reported to plunge northerly at 30 degrees.

In more recent times exploration work was carried out by Geopeko, Territory Resources N.L., Dundas Gold Corporation N.L., Dominion Gold Operations Pty. Ltd., Northern Gold N.L. and Anglogold Australasia Limited.

5.2 Modern Exploration

Mines Department 1974. Drilled two diamond core holes at Princess Louise. These were not logged due to Cyclone Tracy and are at the Darwin core library.
**Geopeko 1977 to 1979.** Activities conducted included gridding, stream sediment sampling, geological mapping, at 1:1,000 scale, an IP survey, and diamond drilling, five holes for 511.64m, and mapping of accessible underground workings. The prospect was named ‘Quest 95.’ Goulevitch reported that gold occurred in thin quartz leaders in two greywacke-mudstone units each about 20m thick, separated by about 30m of barren material. The upper horizon was better mineralised and almost continuous over 3km.

**Territory Resources N.L 1985-1988.** Work included an aeromagnetic survey, a Geo-Flite multispectral scanning survey, geological mapping, alluvial pit sampling and trial mining, 4 costeans for 320m in the alluvial areas and bedrock targets, and 9 percussion holes for 165m (TERP-1 to 9)

An aeromagnetic survey in 1985 over EL 4415 included MCN 898 and MCN 899 [North Point].

In 1986, an extensive pit sampling and alluvial mapping program was completed over North Point, covering MCN 898. Gold was recovered from most samples and encouraging results were obtained.

Four costeans were sampled and mapped in detail on MCN 898 to follow up previous indications of bedrock gold mineralisation.

Bulk samples were taken to 1m depth on MCN 898 and MCN 899. The upper 0.5m of laterite and eluvial/colluvial material was mined from the eastern section of MCN 898. Mining also took place on MCN 899, where approximately 70cm of colluvial and alluvial material was removed from two pits.

The potential for bedrock gold mineralisation along the northern extension of the Priscilla Reef at North Point was suggested by aeromagnetic interpretation.

Exploration showed that the bedrock mineralisation occurs predominantly in ladder quartz veins and stockworks within a greywacke unit of the Mount Bonnie Formation, which forms the northern extension of the “Priscilla Line”. Further south, in the Sandy Creek region, gold mineralisation was identified within quartz veins hosted by Zamu Dolerite. (outside the tenement group)

The bedrock potential of MCN 625, MCN 624 and MCN 898 were further examined by mapping and 9 RC holes. The percussion holes were drilled in the southern portion of MCN 898.
Exploration over MCN 625, MCN 624 and MCN 899, was completed by a consultant, on behalf of Territory Resources N.L. The objective of the program was to investigate the alluvial diggings by the Chinese last century and to assess the underlying bedrock gold potential of the North Point area.

The work undertaken included gridding, geological mapping, excavator pitting, mapping and sampling of excavator pits, panning of samples from the pits and assaying the concentrates.

**Dundas Gold Corporation N.L.1987.** They commissioned Elliott Exploration Co. Pty. Ltd. to carry out a detailed evaluation of MLNs 823-832 and MLNs 858-863.

This work involved the excavation of 38 costeans for 1916m at 60m intervals, geological mapping, sampling, resource calculations and 326 RAB percussion drill holes for a total of 8,942m.

The trenching reported wide zones of +0.4g Au/t anomalism in surficial cemented soils. The drilling was oriented to the east despite the well-documented easterly dip on mineralisation. Despite this, significant gold values (+1.0g Au/t) were met with on most traverses over 3km of strike.

**Dominion Gold Operations Pty. Ltd.1987.** This company completed geological mapping, reconnaissance rock chip sampling and a data review over MCN 46, MCN 47, MCN 49 and MCN 50. These mineral claims contain many of the old workings within the area, which followed the quartz veins on the westernmost anticlinal axis. Dominion’s sampling of these quartz veins returned a best assay of 2.84 g/t. The vein sampling completed within MCN 46 and MCN 47 gave poor values.

Further work completed by Dominion Gold Operations Pty. Ltd., between 1988 and 1994, included costean excavation, vacuum drilling 318 holes for 1145m, RAB drilling, 10 holes for 261m, RC drilling, 124 holes for 5,589m, resource calculations and metallurgical testwork.

Dominion sank a test open pit to the west of the Yam Creek shaft in the vicinity of the old Temperance workings. They mined a 100m section of the west lode, only one resource drill section lay within the pit.

**Eupene Exploration Enterprises, 1988.** Worked on behalf of the Tanami Joint Venture in the vicinity of the Temperance workings and conducted gridding, 15 costeans for 666m, 50 RAB percussion holes for 2,398m, 15 RC holes for 466m, 3 diamond holes for 114.5m, soil sampling and resource estimation (150,000t 2 0g Au/t) Zapopan NL and Henry and Walker dug a trial pit on the resource at Temperance.
Zapopan 1991, dewatered the Yam Creek shaft but found it blocked with debris for the bottom 4m. The upper level was also blocked and they abandoned the exercise after spending $80,000.

Northern Gold N.L 1996. completed a work program using geophysical digital data, MMI geochemical soil sampling and RC drilling

The MMI soil sampling program consisted of the collection of 1,100 samples taken on a 10m spacing on 100 metre lines.

Results returned were highly anomalous with peak values of 784 ppb Au and 448 ppb Au. The northern area showed wide highly anomalous zones. The central part on the Yam Creek line, although densely covered in old workings, showed relatively poor results.

Infill RC test drilling consisted of the completion of 26 holes for a total of 1,995m.

Drilling located the high grade mineralisation previously defined by Dominion in 1994, and Dundas exploration in 1987. Results from drill testing the eastern greywacke were the most encouraging, with best intersections returned in YC151, reporting 6m @ 14.25 g/t Au from 24m, and in YC150 with 4m @ 2.98 g/t Au from 10m.

The second phase of drilling identified southern strike and dip continuations of this high grade mineralisation. Best results include 2m @ 5.62 g/t Au from 58m in YC153, 5m @ 1.14 g/t Au from 40m in YC155, and 3m at 4.24 g/t Au from 22m in YC161.

Northern Gold N.L 1997. Completed a work program involving magnetic interpretation, resource estimates, vertical vacuum and RAB drilling along strike from the RC drilling, and digital terrain modelling.

The data was used in conjunction with aerial mapping, site visits, previous interpretations and reviews to determine the best methods of exploration.

The company purchased multiclient airborne magnetics and Landsat from World Geoscience. The results of the geophysics were used primarily as imaged processed data for regional interpretation of exploration concepts. A contour map of the region was also compiled.

The Yam Creek resource on MLN’s 828–832 was block modelled using inverse distance squared methodology, with a greywacke unit of the Mount Bonnie Formation as geological control.

The model produced used large search ranges in order to include sufficient data to estimate block grades, and lacks sufficient support to be classified as either measured or indicated as defined by the JORC code.
The resource at Yam Creek was estimated above a 0.90 g/t Au cut off:

959,770 t @ 2.02 g/t Au (Uncut)

959,770 t @ 1.31 g/t Au (Cut 10g/t)


They conducted aerial photography, gridding, soil sampling (76 samples), geological mapping, vacuum drilling (520 holes), rock chip sampling, detailed airborne magnetics and radiometrics, RC drilling 88 holes for 7,137m plus 334m of precollars, and diamond drilling, 11 holes. Grade control drilling was carried out at North Point and Princess Louise totalling 213 holes.

AngloGold Australasia Limited 2000. Preliminary resource estimates, and RC drilling programs were completed by Anglogold Australasia Limited during the 2000 exploration season.

A total of 104 RC holes were drilled by Drillcorp - Western Deephole Ltd. and Drillex, for 6,307, targetting the North Point and Princess Louise anomalies, in addition to strike extensions along the Priscilla Line. The samples were submitted to Amdel Ltd., Darwin, for gold analysis using FA1 technique. The work outlined significant mineralisation in the upper greywacke unit at both the North Point and Princess Louise prospects.

A program of vacuum sampling at the Left Of Centre Prospect, intended to test the bedrock below an alluvial anomaly. The program was abandoned after several attempted test holes could not penetrate a clay layer at the base of the alluvium. No samples were taken.

An evaluation of the resources defined at Princess Louise and North Point areas was also completed during the exploration season. The following estimates were calculated using a 1 g/t Au cutoff, and a minimum mining width of 3m.

North Point

368,000t @ 1.88 g/t for 22,243 Oz

Princess Louise

423,000t @ 1.52 g/t for 20,672 Oz

Expenditure under the option by AngloGold was $435,548.

Northern Gold NL 2001. The company completed a thorough data review during the 2001 year of tenure to further evaluate the mineralisation potential within the tenements. Expenditure was $2,060.00.
**Burnside JV 2002** The Burnside Joint Venture carried out the following exploration activity during the year ended 31st December 2002.

Surveying and database validation

Site preparation and RC drilling - Princess Louise 618m in 15 holes
North Point 1,654m in 42 holes.

First pass resource modelling Princess Louise and North Point

Princess Louise, main zone 43,243t @ 2.00g Au/t to 30m depth.
10g/t top cut.

North Point 86,331t @ 2.09g Au/t to 36m depth.

Both of these resource models were subjected to preliminary computer generated pit shell designs and mine cost optimisation.

**6.0 EXPLORATION DURING 2003**

The Burnside Joint Venture commissioned a geostatistical consultant to review the resource models for North Point and Princess Louise. These reports are reproduced in full in Appendix Two and Three.

For **North Point** the indicated and inferred resource at 0.7g/t cutoff totalled 278,000t @ 2.27g/t Au.

For **Princess Louise** the indicated and inferred resource at 0.7g/t cutoff totalled 170,000t @ 2.25g/t Au.

The total cost of this reporting with support component was

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**7.0 FORWARD PROGRAM 2004**

During 2004 both the Princess Louise and North Point gold deposits will be further optimised and be the subject of final pit designs. It is possible that one of the deposits will be prepared for production during 2004.

Work associated with the optimisations is estimated to cost $1,200.00
8.0 REFERENCES


APPENDIX ONE
DIGITAL COPY OF THIS REPORT
(CD ROM)
APPENDIX TWO

Resource Report By
Fleur Dyer (Geostat Services P/L)

North Point Deposit

January 2003
APPENDIX THREE

Resource Report by
Fleur Dyer (Geostat Services P/L)

Princess Louise Deposit

January 2003