



TANAMI
EXPLORATION NL
ACN 063 213 598

SECOND
ANNUAL REPORT

EL 10139

SW PARGEE

For Year Ending 16 October 2004

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October 2004

Distribution:

- ☐ Department of Business, Industry, & Resource Development (1)
- ☐ Central Land Council (1)
- ☐ Tanami NL, Perth (1)
- ☐ Tanami NL, Alice Springs (1)

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1.0 SUMMARY

Exploration Licence 10139 'SW Pargee' is centred approximately 660 kilometres northwest of Alice Springs in the Tanami Region, Northern Territory (**Figure 1**).

The tenement was granted to Tanami Exploration NL (TENL), a wholly owned subsidiary of Tanami Gold NL (TGNL) on 17 October 2002 and formed part of the Tanami (NT) JV, a Joint Venture agreement between Tanami Gold NL (TGNL) and Barrick Gold of Australia Limited (BGAL) from 2002 to 30 June 2004. This report describes exploration by BGAL and TENL for the period 1 January 2004 to 16 October 2004. .

Work by BGAL consisted of a detailed data compilation and interpretation, while TENL carried out an assessment of BGAL's work and further exploration potential in conjunction with TENL's Western Tanami Project, which includes the Coyote, Kookaburra and Sandpiper deposits.

2.0 INTRODUCTION

EL 10139 is situated approximately 660 kilometres northwest of Alice Springs and 150 kilometres northwest of The Granites Gold Mine in the Tanami Region, Northern Territory at the border to Western Australia (**Figure 1**).

The tenement is explored together with TENL's Western Tanami Project in Western Australia. Access from Halls Creek, 250 kilometres to the northwest, is provided via the unsealed Tanami Highway. Access from Alice Springs is northwest via the Tanami Highway for approximately 800km. The highway bisects the tenement area, with the exploration base camp 30 kilometres inside the WA border, approximately seven km south of the road. The tenement is traversed by historic exploration tracks that come off the highway to the north and south. The Balgo community is the nearest established town and is approximately 100km, by road to the west of the project.

The area is affected annually by high temperatures and seasonal rainfall associated with the northern monsoon, which generally extends from November to April. During this time access via road may be restricted due to wet conditions.

The project covers an area of gently undulating hills and aeolian sand plains, dominated by spinifex, acacia thickets and sparse stands of eucalypts. To the north of the project area, the plains are surrounded by high scarps (20->100m) of flat lying Proterozoic sandstones that support little but spinifex and sparse acacia scrub. Occasional springs and ephemeral waterholes occur close to these scarps (Purcell, 2004).

This report documents exploration on EL 10139 carried out by BGAL and TENL in its second year of tenure. The first Annual Report on EL 10139 by BGAL covered the period up to 31 December 2003 under a combined reporting arrangement. This report discusses exploration from 1 January 2004 to 16 October 2004, however the reported expenditure covers the period 17 October 2003 to 16 October 2004.

3.0 TENURE

SW Pargee comprises Exploration Licence 10139; details are listed in **Table 1** and illustrated in **Figure 2**.

Table 1: Tenement Details

Tenement	Grant date	Expiry Date	Blocks	Area (sq. km)	Covenant
EL10139	17/10/2002	16/10/2008	110	352	\$50,000

TENL, a wholly owned subsidiary of TGNL, is the registered title-holder of this tenement. Barrick Gold of Australia Limited (BGAL) managed exploration through the Tanami (NT) JV Agreement with TGNL, commencing 13 December 2000. On 30 June 2004, Exploration 10139 was withdrawn from the Joint Venture.

4.0 PREVIOUS WORK

BGAL carried out a detailed investigation into previous exploration activity, which is detailed in Purcell, 2004, and summarised below:

- Early explorers Davidson and Talbot passed through the area in 1901 and 1909 respectively, where they recorded the presence of gold at a number of locations, including The Granites, Tanami and Larranganni Bluff (Kookaburra/Sandpiper mineralised system).
- Extensive recent activities by the NTGS within the Tanami.
- Exploration work for a variety of minerals and deposit styles, including Au, Cu-Au, base metals and U was conducted since the early 1970's by several exploration companies, including PNC, WMC, CRA, Otter Gold, Acacia Resources, Normandy NFM and Pechiny (Longmire, et al., 1998; Large, C., Sinclair, J., 1999; Wedekind, M. R., 1997; Wedekind, M. R., 1996; Valsardieu, et al., 1974; Norris, M. S., 1991; Palmer, D. C., 1990 and Kendall, B., 1998).

Work conducted in the first year by Barrick included compilation and interpretation of data, geological field mapping, rock chip sampling and limited vacuum drilling (102 Holes). These programmes were designed to test areas of sparse historical exploration, previously identified low-level Au-As anomalism and interpreted litho-structural targets. No significant mineralisation or anomalism was identified.

5.0 REGIONAL GEOLOGY

EL 10139 lies on 1:250,000 geological map sheets Tanami (SE52-15) and The Granites (SF52-03). The regional and local geology is discussed in detail in Purcell, 2004, as repeated below.

The project area lies within the Granites - Tanami Block, a 250km x 100km NW trending, Palaeoproterozoic window comprising various packages of multiply deformed sediments and volcanics. It is bound to the south by the Arunta Province, to the northeast by the Tennant Creek Inlier and Wiso Basin, to the northwest by the Hall's Creek Mobile Zone and to the southwest by the Canning Basin.

Basement is rarely exposed and is composed of Archaean granites and gneisses (**Plate 1**). Basement rocks have SHRIMP U-Pb zircon dates of $2504 \pm 4\text{Ma}$ and $2514 \pm 3\text{Ma}$. The basement was subjected to the Barramundi Orogeny ($1882 \pm 14\text{Ma}$), prior to the deposition of the overlying sediments.

Post-Barramundi rifting led to deposition of mafic volcanics, volcanoclastics and subordinate clastics and calc-silicates of the McFarlane Peak Group. This was succeeded by the deposition of the Tanami

Group in a passive margin environment. These rocks include carbonaceous siltstone, minor banded ironstone and calc-silicates of the Dead Bullock Formation, which is conformably overlain by several thousand metres of turbiditic sandstones of the Killi-Killi Formation.

The sedimentary pile was later intruded by doleritic sills, prior to and during the subsequent deformation of the Tanami Orogenic Event. The Tanami Orogenic Event occurred between 1830-1845Ma and was a period of regional deformation and metamorphism across the Tanami Inlier. The Pargee Sandstone, a thick molasse of interbedded conglomerate, sands and minor silts, was deposited unconformably on the Tanami Group in a sub-basin created during the Tanami Orogenic Event.

Local intracontinental rifting (1825 to 1815Ma), led to subaqueous and subaerial sedimentation and felsic to mafic volcanism, forming the Mount Charles Formation, Mount Winnecke Group and the Nanny Goat Volcanics.

Three overlapping periods of I-type granitic plutonism occurred at this time producing the Winnecke Suite (1830-1820Ma), the Inningarra-Coomarie Suites (1820-1810Ma) and the Granites-Frederick Suites (1810-1790Ma). The Palaeoproterozoic basement was then exhumed, eroded and covered by the Neoproterozoic Birrindudu Group sediments comprising the Gardiner Sandstone, Talbot Well Formation and Coomarie Sandstone.

The region has been cut by large west-northwest trending faults. These structures manifest themselves as large prominent quartz ridges or as drainages. Recent field mapping indicates that these structures were long lived with various episodes and orientations of movement.

Gold mineralisation in the Tanami is extensive. The endowment of the region exceeds 13Moz of gold with the Callie system being the largest single deposit, which contains more than 6Moz of gold. Mineralisation in the Tanami region is diverse, ranging from epithermal styles at the Tanami group of mines, to the deeper lode gold deposit at Groundrush. Locally some deposits favour certain lithologies, however it is clear that gold mineralisation is lithologically indiscriminate and occurs in almost all rock types across the Tanami region.

4.2 Local Geology

The bulk of EL 10139 'SW Pargee' comprises deformed and metamorphosed sediments of the Killi-Killi Formation. Lithologies include shales, siltstones, greywackes, carbonaceous sediments and doleritic sills. Massive granitic stocks intrude the sediments. The southeast portion of the tenement is interpreted to comprise undifferentiated Palaeoproterozoic sediments and segments of Archaean basement, in part overlain by Killi-Killi Formation. Adjacent to the north of the tenement are thick sequences of flat lying Gardiner Sandstone of the Birrindudu Group. The sandstone forms elevated plateaus, which unconformably overlie Tanami Complex rocks, and rise from 20 - 100m above the surrounding topography.

Aeromagnetic interpretation suggests numerous structures traverse the tenement, dominated by WNW trending Trans-Tanami Style Fault Zones and later smaller-scale brittle faults. The package has been multiply deformed giving rise to a well-developed fold interference pattern. Evidence suggests that thrusting has occurred within the package, giving rise to stratigraphic thickening and repetition.

Outcrop is limited to the southwest portion of the tenement. Subcrop is more common though limited to slight topographic rises. Deflationary lag is well developed around these areas. Elsewhere, stratigraphy

is commonly overlain by a transported horizon of variable thickness with localised palaeochannel development. A veneer of aeolian sand from 1-3m thick covers the majority of the tenement.

6.0 EXPLORATION YEAR ENDING 16 SEPTEMBER 2004

All exploration carried out by BGAL has previously been reported in Purcell, 2004, including the period from 17 October 2003 to 31 December 2003. An assessment of exploration results showing only sporadic low-level gold-arsenic anomalism, resulted in a recommendation for no further work and BGAL withdrew the tenement from the NT Joint Venture.

TENL assessed BGAL's exploration work and prepared new exploration strategies for the project area. A regional geological interpretation carried out in-house in 1999 is shown on **Plate 1**, Landsat on **Plate 2** and aeromagnetic TMI on **Plate 3**. The tenement adjoins TENL's Western Tanami Project in Western Australia with the Coyote, Kookaburra and Sandpiper deposits.

7.0 EXPLORATION EXPENDITURE YEAR 2

BGAL exploration costs for the year ending 16 October 2004 are summarised below in **Table 2**. They cover the period 17 October 2003 to 16 October 2004, while this report covers the period 1 January 2004 to 16 October 2004.

Table 2: EL 10139 Exploration Expenditure Year 2

Item	Expenditure \$
Salaries and Wages	19,916
Assaying	186
Geophysical Activities	557
Vehicles and Travel	1,986
Field Costs	2,024
Tenement Property Costs	1,119
Office Support	1,012
Administration	2,680
Total	\$29,480
<i>Covenant</i>	<i>\$50,000</i>

8.0 PROPOSED EXPLORATION PROGRAM YEAR 3

The proposed exploration for year 3 is conducting a detailed review of past exploration, interpretation of geochemistry, field reconnaissance and a surface geochemical program.

The review of past exploration will consist of mines department searches and data compilation. The data will then be reviewed and interpreted to ascertain if the previous exploration was effective. Field reconnaissance and surface geochemistry will then be conducted over areas that have little or no effective previous exploration. In addition to this any existing surface anomalism will be followed up in a systematic manner.

Table 4: Proposed Exploration Program Year 3

Item	Expenditure
Salaries and Wages	\$11,000
Drilling	\$0
Assaying	\$7,000
Drafting and computing	\$200
Camp and equipment	\$200
Vehicles and fuel	\$1,500
Travel and accommodation	\$1,200
Administration	\$1,000
Total	\$22,100

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