TANAMI GOLD N.L.

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PARTIAL RELINQUISHMENT REPORT

EL's 10063, 10064, 10407, 22771

MT DOREEN PROJECT

30 October 2001 to 29 October 2003

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1.0 SUMMARY

Tanami Gold NL (TGNL) identified the potential for Tanami-style gold mineralisation and Tennant Creek-style copper-gold mineralisation in the Mt Doreen region of the northern Arunta Block in 1998 leading to the acquisition of the significant tenement package forming the Mt Doreen Project.

Exploration Licences 10063, 10064, 10407 AND 22771, which form part of the Mt Doreen Project, were granted on 30 October 2001 to Tanami Exploration NL (TENL), a wholly owned subsidiary of TGNL. At the end of the second year of term, partial relinquishments in respect of these tenements reduced the Mt Doreen Project area from 1,324 blocks to 1,051 blocks. This report describes exploration on the relinquished portions of EL's 10063, 10064, 10407 and 22771 from grant to 29 October 2003.

The relinquished tenement areas are all located on the Mt Doreen 1 : 250,000 sheet, apart from EL 10063, which is situated on the Mt Theo 1 : 250,000 sheet. They are underlain by granite apart from the boundary area of EL 10063 and EL 10064 which are interpreted to be underlain by Lander Rock Beds and Reynolds Range Group sediments. The Wilson's Find Tungsten-Copper occurrence is situated in this area.

Exploration included a compilation of previous exploration and reconnaissance. No fieldwork was carried out on the surrendered portions. Only limited exploration was carried out by previous explorers in this area. The discussed areas were recommended for relinquishment based on geology or the presence of exclusion zones identified from Central Land Council (CLC) work area clearances.

2.0 INTRODUCTION

Exploration Licences 10063, 10064, 10407 and 22771 form part of the Mt Doreen Project. All four tenements were subject to a partial relinquishment after two years of tenure. Exploration during this period is the subject of this report.

The Mt Doreen Project is located approximately 300 kilometres northwest of Alice Springs. The project area is situated mainly on two 1:250,000 sheets: Mt Doreen (SF52-12) and Mt Theo (SF52-08). Access to the Mt Doreen tenements is via the Tanami Highway, which passes through the tenements 20 kilometres west of Yuendumu. Station tracks and fencelines provide good access throughout the project area (**Figure 1**).

The Mt Doreen region contains moderate relief comprising extensive high ranges of quartzite belonging to basal units of the Ngalia Basin, high rounded granite hills rising up to 250 metres above the surrounding terrain, and low rounded ranges of schist and granite tors. Extensive low-lying areas surrounding the ranges comprise sheetwash sand, clay and gravel, aeolian sand, wide incised fluvial gravel and sand, and minor calcrete and playa lake clay and silt.

3.0 TENURE

The Mt Doreen Project consists of six granted tenements as detailed in Table 1 currently comprising 1,051 blocks for a total area of 3,351km^2. Exploration Licences 10063, 10064, 10407 and 22771 were granted to TENL on 30 October 2001.

At the end of the second year of term EL's 10063, 10064, 10407 and 22771 were reduced in size pursuant to the requirements of section 26 of the NT Mining Act, see Table 1. This report covers exploration conducted within the relinquished areas (**Figure 2**).

Table 1: Tenement Details

Tenement	Tenement No.	Blocks Granted	Blocks Relinquished	Blocks Retained	Grant Date	Expiry
Mt Singleton	EL 10063	256	34	222	30/10/01	29/10/07
Buger Creek	EL 10064	432	39	393	30/10/01	29/10/07
Saltbush Bore	EL 10169	29	0	29	30/10/01	29/10/07
Silver King	EL 10407	123	48	75	30/10/01	29/10/07
Mt Hardy	EL 22771	280	62	218	30/10/01	29/10/07
Yaloogarrie Ck	EL 23640	114	0	114	12/03/03	11/03/09
Total		**1,234**	**183**	**1,051**		

The Mt Doreen Project tenements lie wholly within the Mt Doreen Pastoral Lease. TGNL negotiated an Indigenous Land Use Agreement (ILUA) to facilitate grant and access to the tenements. TGNL and the Central Land Council (CLC), on behalf of the traditional Aboriginal owners, signed an Exploration Deed on 18 April 2001 and the ILUA was registered on the Register of Indigenous Land Use Agreements on 4 September 2001.

Work Area Clearance for the entire Mt Doreen Project was received in July 2002 from the CLC and traditional Aboriginal owners. A number of exclusion zones were identified (**Figure 3**).

4.0 PREVIOUS WORK

4.1 1930's –Emu Mining Company

Michael Terry carried out two prospecting expeditions to the Lake McKay area during the 1930's for the Adelaide based Emu Mining Company (Baarda, 1994). Terry identified quartz reefs in the area on his first expedition in 1932. One of the reefs contained arsenopyrite with minor gold, silver and bismuth, and later assayed "a few pennyweights to the ton" gold.

Upon returning to the area some years later a shallow exploratory pit (costean) was sunk on a 'quartz blow'. Terry reported strong arsenopyrite but could not identify any visible gold after dollying.

4.2 Geological Survey

The majority of the Mt Doreen Project area lies within the Mt Doreen 1:250,000 sheet which is covered by second edition geological mapping carried out by the National Geoscience Mapping Accord (NGMA) (Young et al 1996A). Accompanying explanatory notes (Young et al 1996B) and additional published literature Shaw (1994) and Blake (1993) provide a useful summary of the regional geology.

Western and northern parts of the project area are covered by first edition mapping of the Lake Mackay (Wells et al, 1971), Mt Theo (Stewart et al, 1976) and Highland Rocks sheets (Blake et al, 1977) plus accompanying explanatory notes. Aeromagnetic, radiometric and gravity surveys were first conducted by the Bureau of Mineral Resources (BMR) in the 1960's.

Airborne magnetic and radiometric surveys were completed by the Australian Geological Survey Organisation (AGSO) over Highland Rocks and Mt Theo to 500 metre line spacing in 1993, and over Mt Doreen and Lake Mackay to 400 metre in 1998.

4.3 MIM / Roebuck Resources Joint Venture

MIM Exploration held significant tenure over the northern sector of the Mt Doreen sheet in the early 1990's. The exploration rationale was based on similarities between the Lander Rock beds and the Warramunga Group, which hosts gold-copper mineralisation in the Tennant Creek Inlier.

Hence MIM targeted magnetic highs, reprocessing BMR 1976 aeromagnetic data and identifying nine magnetic anomalies, six of which fall within TGNL tenements. Lag and/or rockchip sampling was carried out over the magnetic highs where appropriate, and shallow RAB drilling (av. 5m depth) was conducted over areas of transported cover.

The best results came from Anomaly 2, which lies within Patmungala Beds just south of the TGNL tenement boundary. MIM / Roebuck's target was a linear magnetic high, which probably relates to ironstone units with the Patmungala beds. The anomaly targeted lies near a known Modat copper occurrence ('Buger 2') and the 'Patmungala' Pb and Cu shows lie 4 and 9 kilometres further westwards along strike. Rockchip samples of gossanous ironstone in the area returned up to 125ppb Au and 135ppm As. Visible malachite was also observed. Additional prospecting at the Patmungala Cu and Pb shows returned rockchip results up to 6.2% Cu, 190ppm Pb and massive pyrite containing 15-20ppb Au. The geology and Cu-Pb-Zn-Ag-Au association suggests a VHMS origin.

4.4 Yuendumu Mining Company / Posgold

Yuendumu Mining Company NL (YMC) held tenure over western parts of the Mt Doreen Project area from 1992 to 1996. YMC sole-funded exploration to early 1994 then farmed out the tenement to Poseidon Gold Limited (Posgold).

Early prospecting at Terry's Find by YMC involved soil sampling in valleys and saddles to collect material shedding from topographic highs. Weakly anomalous results were achieved. Historical research of Michael Terry's prospecting expeditions was conducted concurrently. Using aerial photographs YMC estimated the location of the 1930's costean based on Terry's descriptions of the area and successfully re-discovered the auriferous quartz blow.

Rockchip grab sampling from Terry's pit returned up to 0.67g/t Au associated with massive arsenopyrite (assaying to 15.6% As) in mullock adjacent to the costean. Encouraged by this YMC carried out additional follow-up soil sampling, which returned four +10ppb Au assays and began to reveal an extensive east-west corridor of elevated gold and arsenic.

Posgold carried out systematic soil and lag sampling in 1994, reportedly taking 721 soil and 112 lag samples over an area of approximately 50km^2, including three +10ppb Au samples with max of 38ppb Au.

Posgold drilled 247 vacuum holes over the Terry's Find area in 1995, returning a best result of 44ppb Au. Vacuum drilling was conducted on the margins of the main anomalous corridor with only one line crossing it, the probable strategy being to extend geochemical lines over areas of shallow sand cover rather than repeat soil geochemistry over topographically higher residual terrain.

In addition to the Terry's Find prospect YMC and Posgold explored three other target areas and conducted regional vacuum and aircore drill traverses.

At the 'Buger' target area 15 kilometres NNE of Terry's Find 185 minus 80 mesh soil samples were taken over outcropping Lander Rock beds adjacent to the known 'Buger 1' copper show. Five samples returned 2-4ppb Au over a relatively discrete area of 2.5 kilometres strike, which also included the best Cu result of 100ppm.

At the 'Grasshopper' target area 35 kilometres NNE of Terry's Find 197 minus 120 micron soil samples were taken over outcropping Lander Rock beds south of a major WNW striking quartz ridge. Two samples returned best results of 2ppb Au.

Regional geochemistry around the Buger and Grasshopper areas comprised 47 -120 micron soil samples, 388 vacuum holes and 25 shallow aircore holes over areas of shallow transported cover. The only anomalous result came from vacuum drilling immediately south of Grasshopper in which a bedrock composite sample from 4.5 metres to 26 metres returned 6ppb Au.

4.5 BHP

BHP pegged over 3000km^2 of the northern Mt Doreen and southern Mt Theo sheets believed to be prospective for Cu-Au in the late 1990's.

AGSO studies (Wyborn, 1998) of the metallogenic potential of Australian Proterozoic granitoids had highlighted the Southwark Granite as having affinities with granitoids from known Cu-Au districts around Australia. In addition numerous copper shows were noted to occur within Lander Rock beds in close proximity to the granite. The area was subsequently assessed for potential to host world-class Cu-Au mineralisation similar to the Stuart Shelf in South Australia or the Cloncurry region in Queensland.

BHP conducted a detailed open file geochemical data review, which concluded that all significant geochemical anomalies (including Terry's Find) had been adequately tested, but noted that geochemical anomalism was associated with established mineral occurrences (workings) and that vast areas of shallow Quaternary cover were largely untouched.

Reconnaissance field visits made to the area concluded that the region is not amenable to extensive low cost surface geochemical testing due to the transported nature of the regolith. Minor rockchip and lag sampling was undertaken within the vicinity of previously identified geochemical and magnetic anomalies but returned no significant assays.

BHP concluded that the region lacked evidence of regional alteration of the style observed in known world-class Cu-Au provinces, but that some potential might still exist for structurally controlled Au mineralisation under areas of transported cover.

5.0 GEOLOGY

The Mt Doreen Project lies within the Northern Arunta Block of the North Australian Craton. The Arunta basement comprises Palaeoproterozoic – Mesoproterozoic metamorphic rocks and granites. High strain zones in the project area, the Cox's and Treachery Schist Zones, form part of the regional scale Lake Mackay-Alcoota Fault System. The Neoproterozoic Ngalia Sedimentary Basin lies to the south of the project area.

The relinquished tenement areas are located on the Mt Doreen 1 : 250,000 sheet, with the exception of EL 10063, which is situated on Mt Theo.

All surrendered tenement areas are underlain by granite (**Plate 2**) apart from EL 10063, and Area A from EL 10064 which are interpreted to be underlain by Lander Rock Beds and Reynolds Range Group sediments. The Wilson's Find tungsten-copper occurrence is situated in this area.

6.0 TENL EXPLORATION

TENL compiled previous exploration data and commenced reconnaissance exploration of the Mt Doreen Project during the 2002 field season. Previous exploration is discussed in detail under Section 4.0. Previous explorers carried out following exploration in the relinquished tenement portions:

- **EL 10063:** Limited vacuum drilling and soil sampling by YMC and Posgold
- **EL 10064 Area A:** Vacuum drilling and soil sampling by YMC and Posgold related to the Grasshopper prospect to the south
- **EL 10064 Area B:** limited soil sampling by YMC and Posgold related to the Terry's Find prospect to the southwest
- **EL 10064 Area C:** limited soil sampling by YMC and Posgold related to the Burger Creek Prospect
- **EL 10064 Area D:** no previous work
- **EL 10407:** limited RAB Drilling by MIM / Roebuck Resources related to Anomaly 2 to the south
- **EL 22771 Area a and B:** no previous work.

No fieldwork was carried out by TENL on the surrendered tenement portions. These were recommended for relinquishment as being unprospective based on the underlying lithology. An exception is the area over the Wabudali Range on the boundary of Mt Singleton (EL10063) and Buger Creek (EL10064), which was considered prospective, however this area is overlain by an exclusion zone (**Figure 3**) which was identified during work area clearance conducted by the CLC . Exclusion zones cover most of the surrendered areas.

7.0 REFERENCES

Baarda, F. and Winwood-Smith, A. 1994 Annual report for Exploration Licence No. 7830 for the period 2/12/92 to 1/12/93, Buger and Terry Prospects, Mt Doreen 1:250,000 Sheet SF 52-12. *CR94/74, NT Mines Dept.*

Blake, D.H., et al 1977 Highland Rocks, First Edition 1:250,000 scale geological map. *Bureau of Mineral Resources, Geology and Geophysics, Canberra.*

Blake, D.H., 1993 Final report on the geology of Vaughan 1:100 000 map sheet (Mount Doreen 1:250, 000 sheet), Arunta Block and Ngalia Basin, Northern Territory. *Record 1993/28 Australian Geological Survey Organisation, Canberra.*

Potter, J.R., Anderson, J.E., 2003 Second annual report Els 10063, 10064, 10169, 10407, 22771 Mt Doreen project for the year ending 29 October 2003.

Shaw, R.D. 1994 Structure and tectonic development on the Mount Doreen 1:250,000 sheet area. *Record 1994/54 Australian Geological Survey Organisation, Canberra.*

Smith, T. 2003 First annual report on EL's 10063, 10064, 100169, 10407 and 22771 Mt Doreen project for the year ending 29 October 2002.

Stewart, A.J., 1976 Mount Theo, First Edition 1:250,000 scale geological map. *Bureau of Mineral Resources, Geology and Geophysics, Canberra.*

Wells, A.T., 1971 Lake Mackay, First Edition 1:250,000 scale geological map. *Bureau of Mineral Resources, Geology and Geophysics, Canberra.*

Wyborn, L.A.I., et al 1998 Australian Proterozoic Granites – characteristics, sources and possible mechanisms for derivation and emplacement. In: Abstracts for the Bruce Chappell Symposium: Granites, island Arcs, The Mantle and Ore Deposits. *Australian Geological Survey Organisation, Canberra.*

Young, D.N., et al 1996A Mount Doreen, Second Edition 1:250,000 scale geological map. *Australian Geological Survey Organisation, Record 1998/33, 47-49.*

Young, D.N., et al 1996B Mount Doreen, Northern Territory – 1:250,000 Geological Series *Northern Territory Geological Survey, Explanatory Notes* SF 52-12