



**TANAMI**  
**EXPLORATION NL**  
ACN 063 213 598

**ANNUAL REPORT**

EL 10223 'Cornelius'

From 22 May 2007 to 21 May 2008

**ARUNTA PROJECT**

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June 2008

**Distribution:**

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

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## DIGITAL APPENDICES (supplied on CD)

FILE	DESC
AR_WASL3_COLL_2008A	Collars
AR_WADG3_DHSAMP_2008A	Downhole Samples
AR_WADL3_ALT_2008A	Alteration
AR_WADL3_DHASSAY_2008A	Drillhole assay results (normalised)
AR_WADL3_GEOL_2008A	Drilling Geology

AR\_WADL3\_VEIN\_2008A  
AR\_WADL3\_WEAT\_2008A  
AR\_WADS3\_DHSURV\_2008A  
AR\_WASG3\_SSASSAY\_2007A  
AR\_WASG3\_SURF\_2007A  
TGNL Geological Codes

Veining  
Downhole weathering  
Downhole Survey  
Surface sampling assay results (normalised)  
Surface Sampling  
Geological codes

## 1.0 SUMMARY

EL 10223 is situated approximately 500 kilometres northwest of Alice Springs and is explored as part of the Arunta project (**Figure 1**). The tenement was granted to AngloGold Australia Limited (Anglogold) on 22 May 2002 and was purchased by Tanami Exploration NL (TENL), a wholly owned subsidiary of Tanami Gold NL (TGNL), a publicly listed company in June 2005. Anglogold is still the current registered holder as the transfer is pending execution of a Deed of Covenant with the Central Land Council.

After five years of tenure two thirds of EL 10223 was surrendered. This report describes the exploration carried out from 22 May 2007 to 21 May 2008.

Tanami Exploration NL completed an aircore drilling program in November 2007. One rock chip sample, which was the only sample taken within the previous reporting period, but which had not been reported in that period, is also included in this report. A summary of exploration is listed in **Table 1**.

**Table 1: Exploration Summary**

Rock Chip Sampling	Aircore Drilling
1 sample taken in November 2006	32 holes, 2,996 metres, 897 samples

The one grab sample from drill cuttings of previously drilled Hole TAA0431 returned a gold assay result of 0.394ppm.

The best assays were returned from CNA 0016 & 17 including maximum intercepts of 4m at 0.54g/t Au from 68m and 4m at 2.53g/t Au from 72m respectively. The location of the mineralised drillholes within a zone of previously identified mineralisation, assisted with the appraisal of the style of the gold mineralization at the Abrolhos Prospect.

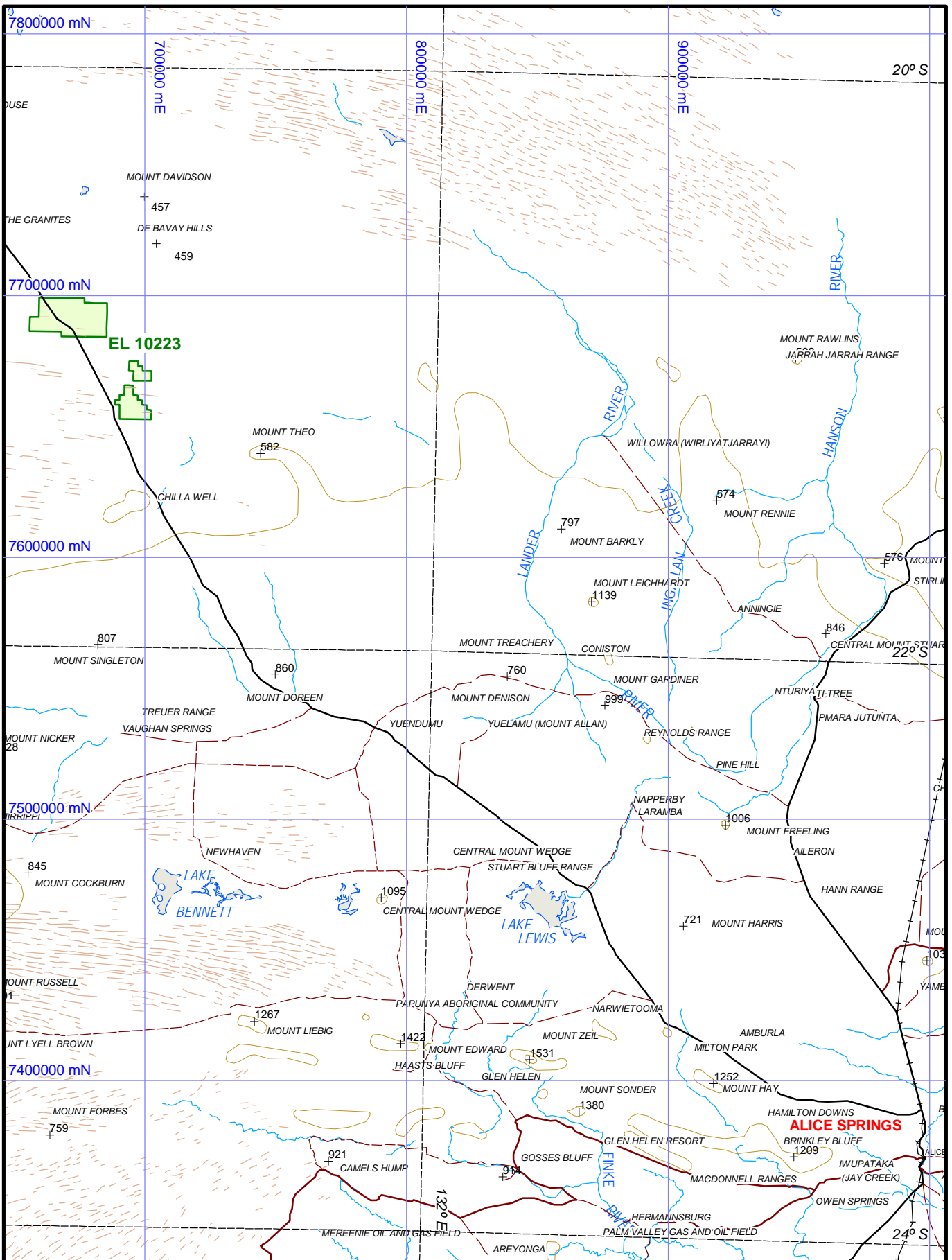
## 2.0 INTRODUCTION

EL 10223 forms part of the Arunta Project. The tenement is situated approximately 500 kilometres northwest of Alice Springs and 45 kilometres east of the Tanami Gold Mine within the Tanami Desert (**Figure 1**).

Following five years of tenure, two thirds of the area of EL10223 was surrendered, with only the south western portion being retained. This report details the exploration completed from 22 May 2007 to 21 May 2008, but also includes a rock chip sample taken in November 2006.

The Arunta project area is affected by access restrictions, including extremely high temperatures (in excess of 50°C) and high seasonal rainfall associated with the northern monsoon season that typically extends from late November to the middle of April. Access to the tenement is via the Tanami Highway that provides access to the western margin of EL 10223 and then by 4WD tracks (Sinclair et al, 2003).

Vegetation over the project area varies from open spinifex plains to low lying scrub. The region has a characteristically subdued topography with very rare low-lying breakaway hills and sub-cropping areas. Surficial regolith over the majority of the area comprises a veneer of aeolian or colluvial sediments. Deep palaeo-drainage systems, comprising fluvial, lacustrine and aeolian sediments, are known to transect some of the tenements (Sinclair et. al., 2003).



# TANAMI GOLD NL

# TENEMENT LOCATION

**ARUNTA**

ORIGINATOR:  
**J. Rohde**

DATE:  
**June 2008**

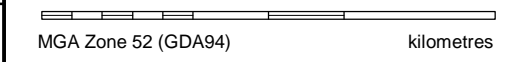
DRAWN:  
**M.H.Bailey**

**1 : 2,000,000**

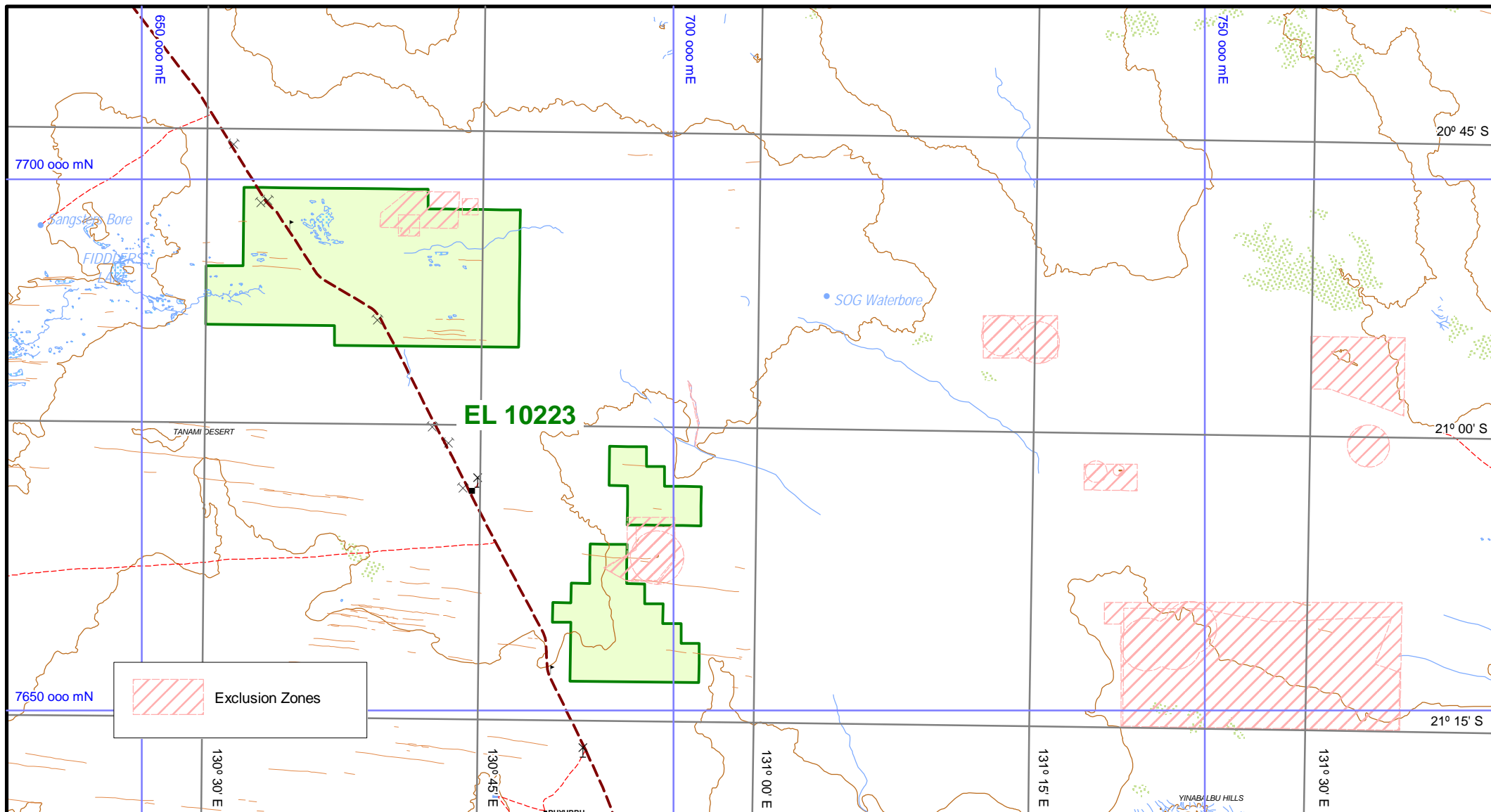
**FIGURE 1**

PLAN No: **TAP\_AR\_1\_0\_006**

**TAP\_AR\_1\_0\_006**



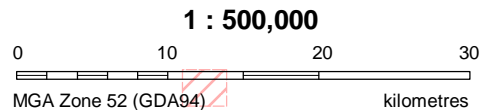
**FIGURE 1**



 Exclusion Zones

**FIGURE 2**

ORIGINATOR: <b>J. Rohde</b>	DATE: <b>June 2008</b>	DRAWN: <b>M.H.Bailey</b>
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**CORNELIUS**

**TENEMENT LOCALITY**

**TANAMI GOLD NL**

PLAN No: **TAP\_AR\_1\_0\_005**

### 3.0 TENURE

Exploration Licence 10223 was granted to AngloGold Australia Limited on 22 May 2002 for a period of six years. EL 10223 was included within a Sale and Purchase Agreement dated 23 June 2005 between AngloGold Ashanti Australia Limited (AAL) and Tanami Exploration NL (TENL). AngloGold is the current registered holder, the transfer is pending execution of a Deed of Covenant with the Central Land Council.

Under the terms of a Heads of Agreement dated 28 June 2005 between Deep Yellow Limited (DYL), TGNL and TENL, DYL has purchased the right to 100% of any uranium minerals within all of TGNL's and TENL's tenements in the Tanami – Arunta Province. The Deeds for Exploration entered into by AAL and subsequently assigned to TGNL/TENL cover Exploration and Mining Proposals for gold only. Exploration for uranium minerals is specifically vetoed by the Deeds. The CLC requested that DYL submit a Uranium Exploration and Mining Proposal with respect to each Deed. The new proposal, to be consistent with the requirements of Section 41(6) of the Aboriginal Land Rights (Northern Territory) Act was submitted to the CLC on 8<sup>th</sup> September 2006.

At the end of the sixth year of term, EL 10223 was reduced in size pursuant to the requirements of section 26 of the *NT Mining Act* (Figure 2). Tenement details are listed below in Table 2.

**Table 2: Tenement Details**

Tenement	Blocks Granted	Blocks Relinq 2006	Blocks Relinq 2007	Blocks Relinq 2008	Blocks Retained	Grant Date	Expiry Date
EL 10223, Cornelius	439	62	214	87	76	21 May 02	21 May 08

### 4.0 REGIONAL GEOLOGY (Sinclair et al, 2003)

The project area is in the Granites - Tanami Block that forms the basement to the surrounding Birrindudu Basin (Blake et al. 1979). To the west are the Halls Creek Mobile Zone and the Canning Basin; whilst to the east and south are the Wiso Basin and the Arunta Block (which is possibly of similar age and stratigraphic equivalence to the Granites - Tanami Block). The Granites - Tanami Block contains the Tanami Complex, which hosts the mineralisation at the Tanami and Granites gold mines.

The Tanami Complex is of Early Proterozoic age and comprises meta-sediments and meta-volcanics, which are steeply dipping with a bedding parallel cleavage. Poor exposure and structural complexity have precluded a full understanding of the stratigraphy. The NTGS has remapped the eastern portion of the inlier and erected a stratigraphy, which broadly correlates with the Pine Creek and Hall's Creek inliers. Economic gold mineralisation is found in a variety of host rocks, and appears to be related at least partly to geochemical properties of those rocks, rather than a particular stratigraphic age. At Dead Bullock Soak, the Callie deposit, gold is hosted in a weakly carbonaceous siltstone sequence, the Dead Bullock Formation. At the Tanami Mine gold is hosted by rocks deposited in a younger basin. These comprise a series of pillow basalts and greywackes of the Mount Charles Formation. In the western Tanami on AngloGold tenements, mineralisation is hosted by a sequence of weakly carbonaceous shales, siltstones, micaceous greywackes and sandstones, which have been tentatively assigned to the Killi Killi Formation by AngloGold. The Killi Killi Formation is slightly younger than the Dead Bullock

Formation but is part of the same basin fill sequence. The Killi Killi Formation is thought to represent late stage, passive margin basin fill sedimentation. Late Proterozoic and early Carpentarian granites intrude the Tanami Complex. Most of the known gold mineralisation is spatially related to these granites, although a genetic relationship has not yet been proven.

Cainozoic surficial overburden comprises laterite, calcrete and vein quartz rubble. In addition there is a thin veneer of Quaternary aeolian and alluvial sand. Palaeodrainage channels are well developed in the western Tanami, filled by lacustrine clays and sheetwash sedimentation. Silcrete is locally developed. Where tested by drilling they have a maximum depth of around 40m, but may be locally deeper elsewhere. These commonly follow major structural lineaments in the underlying bedrock and for that reason tend to inhibit exploration.

Structurally the Block is very complex with multiple phases of deformation and faulting. Two main types of folding have been identified in the Killi Killi Beds. Broad northerly-plunging anticlines and synclines are recognised and east-southeast-trending zones of smaller chevron folds with steep limbs. The chevron folds cut across the broad folds indicating at least two phases of deformation. Both phases have been disrupted by the intrusion of granite. D1 and D2 involve progressive deformation about NW-SE to E-W trending axes. Dextral strike slip reactivation of the Trans Tanami fault during D3 or late D2 resulted in rotation and re-folding of previously folded units to a N-S orientation.

NW-WNW trending strike slip/dip-slip faults (D3) are very prominent and are commonly associated with intense shearing and quartz veining. The structures are possibly related to deep-seated structures in the metamorphic-granitoid Archaean basement, which to the NW define the margin of the Canning Basin on the Lennard Shelf. NE to ENE and N-trending faults are also common and can be related to phases of basin extension and compression during regional tectonism.

The NTGS has identified seven stages of deformation, with the gold mineralisation relatively late and related to a D6 event. Recent dating by AGSO/NTGS of mineralisation also indicates late stage mineralisation. AngloGold has erected a simpler, but broadly similar structural model, with three major deformation events, with mineralisation related to late D2 deformation. Much of the dextral faulting on NW-WNW Trans-Tanami Faults is thought to post-date mineralisation.

#### 4.1 PROSPECT GEOLOGY

Although minor outcrop (highly weathered veins in ferruginous bedrock) is present east of the Abrolhos prospect, EL 10223 is covered by sand and relatively thin palaeochannel deposits and as such exploration is realistically a drilling exercise.

The 2007 drilling established the overburden as comprising a layer of unconsolidated, modern Aeolian sands (generally around 3 metres in depth), overlying up to 30 metres of indurated sand with sporadic gravelly layers. This indurated sand becomes more gravelly and indurated with depth. The cover was noted as being substantially thinner (3-12m) east of approximately 696300mE, where TGNL noted minor outcrop in places.

The transported overburden overlies deeply weathered bedrock. A mottled zone may be present immediately below the overburden, but the upper part of the bedrock generally appears to be strongly weathered, bleached, "pallid zone" material. Below approximately 50 vertical metres the pallid zone gives way to haematised saprock and increasingly less weathered bedrock is intersected below this. The allocation of the bottom of complete oxidation during logging was somewhat arbitrary, as the changes in weathering state of metasedimentary successions typically occur over wide intervals.



The bedrock weathering profile appears to be a relatively simple one with strongly weathered rock at the top, becoming systematically less weathered with depth. Bedrock intersected by the 2007 drilling is predominantly a high-grade metasedimentary sequence dominated by quartz-muscovite-biotite schists. Sillimanite was noted in some holes. Thin granite and pegmatite layers (coarse quartz-K-feldspar-muscovite) and glassy-textured quartz veins were also logged.

The observed metamorphic grades are much higher than anything known in the Tanami, and it is almost certain that these rocks are part of the Lander Formation of the Arunta Complex (time equivalent to the Killi Killi).

## 5.0 PREVIOUS EXPLORATION

Historically the Cornelius tenement was worked by Sons of Gwalia Ltd (SOG) in the mid- to late 1990's, which conducted surface sampling and extensive shallow drilling on regional lines. A "failed VAC hole" returned 3 ppb Au, and follow-up drilling returned 11 ppb Au in a RAB hole that just "bottomed into saprolite". Additional deeper drilling delineated two large, coherent Au-As anomalies subsequently named Abrolhos and Abrolhos South.

On EL 10223 AngloGold completed data compilation and review prior to commencement of field bases exploration programs. The interpretive geology for the Arunta project area is shown **Figure 3**, which is based on a regional interpretation compiled for TENL by Dr Ding Puquan in April-May 2001 (Ding, 2001). TENL undertook reprocessing of the regional open-file aeromagnetics in early 2006.

All field exploration was carried out by Anglogold during the first three years of tenure including surface sampling, a helicopter reconnaissance survey as well as limited aircore and slimline RC drilling in areas of EL 10223 previously surrendered.

## 6.0 EXPLORATION COMPLETED

### 6.1 Geochemical Sampling

One grab sample of drill cuttings from TAA0431 approximately 420m SSW of the Abrolhos Prospect was taken in November 2006. Because it was the only field activity in the previous reporting period it was decided not to report it individually but to include it in this report. The sample was submitted to Analysis for low level gold analysis and Ag, As, Bi, Cu, Pb, and Zn. The gold assay result was 0.394 ppm Au. The sample location is shown on **Figure 3** and all sample data and assay results are included in the digital appendix.

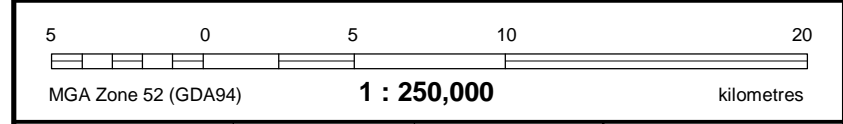
### 6.2 Aircore Drilling

A 32 hole aircore drill program for 2,996 meters was completed in late November 2007 (Figure 3) at the Abrolhos Prospect. The program tested for potential strike-extensions and followed up on several previously encountered anomalies. In particular it attempted to establish and improve knowledge of the structural controls on the mineralisation.

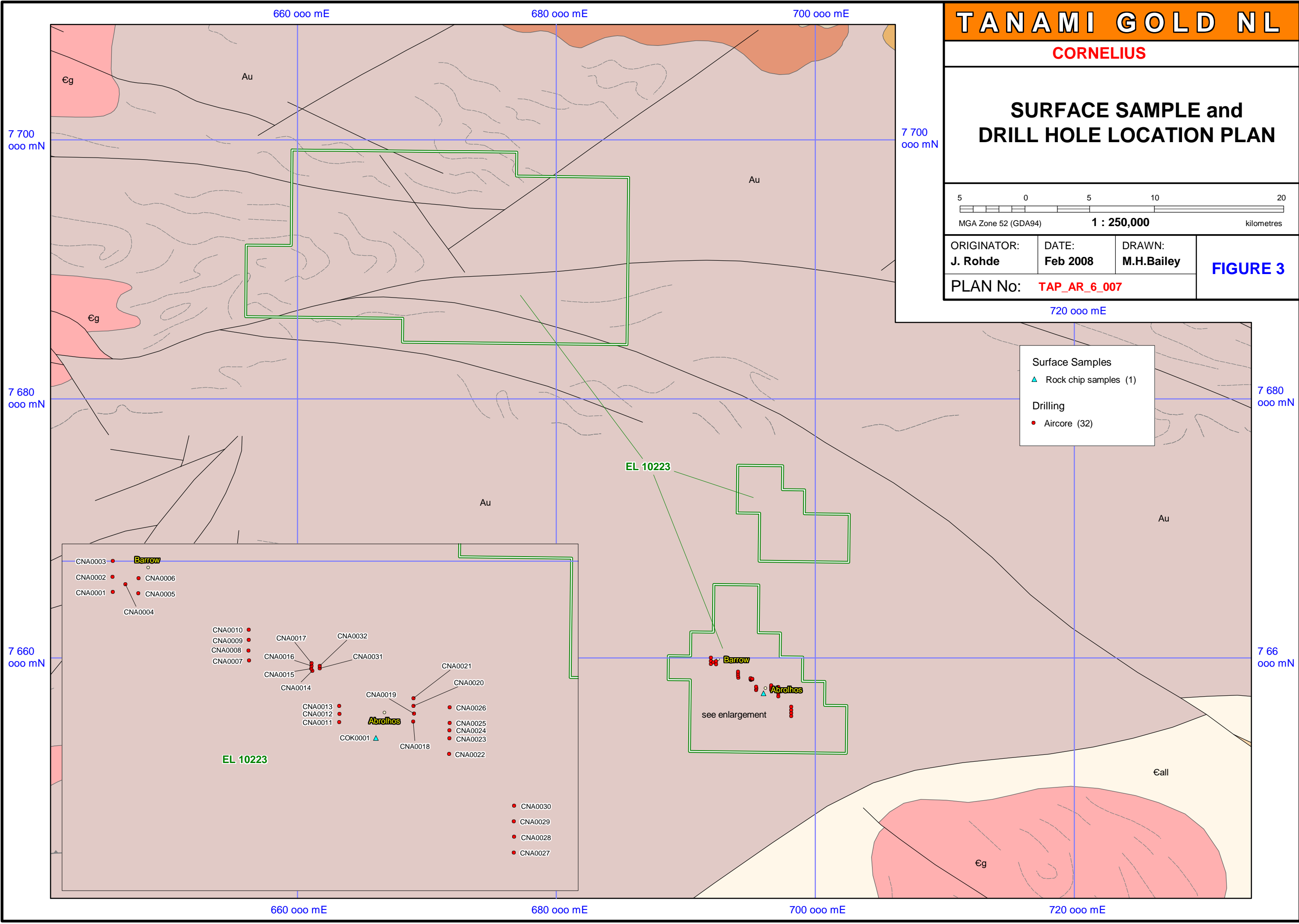
# TANAMI GOLD NL

## CORNELIUS

### SURFACE SAMPLE and DRILL HOLE LOCATION PLAN



ORIGINATOR: <b>J. Rohde</b>	DATE: <b>Feb 2008</b>	DRAWN: <b>M.H.Bailey</b>	<b>FIGURE 3</b>
PLAN No: <b>TAP_AR_6_007</b>			



Best assays were returned from hole CAN 0016 including a maximum intercept of 4m at 0.54g/t Au from 68m and from hole CAN 0017 including a maximum intercept of 4m at 2.53g/t Au from 72m. The drill holes comprised a 100m step-out to the west along strike of the northern mineralised structure. Two further infill holes (CAN 0031 & 32) were drilled 150m to the east between existing drill traverses containing known mineralisation, returning additional positive assay results peaking in hole CAN 0031 at 4m at 0.73g/tAu from 96m.

The drillhole intercepts assisted with the appraisal of the style of mineralisation, however in consideration of the depth, and tenor of the intercepts, the results were poor. A plunge component to the mineralisation has been previously identified at the Abrolhos Prospect area, which may account for the complex distribution of mineralisation and the difficulty in intersecting prospective zones of higher grade mineralisation and widths expected to be economic given the depth of the mineralisation.

CAN 0008, approx 1km west of CAN 0016 & 17, returned 4m at 0.75g/t Au from 56m, which represents a significant step-out to the west along strike of the zone of previously identified mineralisation.

Drilling in the Abrolhos Prospect area intersected deep transported (aeolian and alluvial) cover between 3 – 29m. Bedrock has closer affinities to Lander Bed Formation than Tanami Group metasediments, with the observed lithologies comprising fine to medium grained biotite- and muscovite- rich metasediments.

**Table 3: Abrolhos - Significant Intercepts (+100ppb Au)**

Hole_ID	From m	To m	Width m	Grade ppb	Comment
CNA0008	56	60	4	754	
CNA0015	84	88	4	276	
	92	96	4	128	
CNA0016	64	100	36	315	Incl 8m at 0.51g/t Au from 64m
CNA0017	72	84	12	958	Incl 4m at 2.53g/t Au
	92	96	4	102	
	100	120	20	431	Incl 4m at 1.40g/t Au
CNA0026	36	40	4	283	
CNA0031	60	68	8	139	
	76	92	16	373	Incl 4m at 0.82g/t Au from 88m
	96	100	4	725	
	104	112	8	181	
CNA0032	60	76	16	211	Incl 4m at 0.44g/t Au from 72
	112	116	4	196	

The mineralised intercepts correlate with a bleached zone containing abundant quartz, pegmatite, K-feldspar and trace chlorite. The quartz veining varies from vitreous, to dirty grey or brown, and is occasionally associated with pegmatite.

All holes were sampled with 4m composite samples. Drill intercepts with significant assay results (>100ppb Au) were re-sampled in 1m intervals. The results are summarized in **Table 4**.

**Table 4 : Abrolhos – Resampling of Significant Intercepts (+500ppb Au)**

Hole No.	From	To	Width	Grade (ppb)	Grade (ppm)	Comment
CNA0016	65	66	1	813	0.81	
	67	68	1	657	0.66	
CNA0017	72	73	1	5214	5.21	
	73	74	1	4205	4.20	Chlorite-sericite altered biotite-sillimanite schist with lesser quartz veining
	107	108	1	5122	5.12	Vein quartz with chlorite-sericite altered metasedimentary country rock
	108	109	1	508	0.51	
CNA0031	76	77	1	571	0.57	
	90	91	1	708	0.71	
CNA0032	65	66	1	580	0.58	
	114	115	1	852	0.85	

Detailed drill hole data and assay results are included in the digital appendix.

## 7.0 REHABILITATION (

All aircore drill holes were plugged beneath ground level and backfilled on completion. All rubbish associated with the drilling program was removed from the tenement and disposed of at the Coyote Gold Mine. Drill areas were left to naturally revegetate.

The site was audited under the Company's Environmental Audit procedure three months after completion of the drilling, which determined that no remedial rehabilitation action was required.

## 8.0 BIBLIOGRAPHY

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