

TANAMI EXPLORATION N.L.

ABN 45 063 213 598

FINAL REPORT

EL 22965 'Bluebush'

From 13 February 2003 to 12 February 2009

SUPPLEJACK PROJECT

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April 2009

Distribution:

- o Department of Primary Industry, Fisheries and Mines (1)
- o Central Land Council (1)
- o Tanami Gold NL (1)

File: jr20dpifm FS EL 22965 Bluebush 2009

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DIGITA	L APPENDICES (supplied on CD)				
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BB_WASG3_SSASSAY_2009S BB_WASG3_SURF_2009S

Supplejack Annual Report_2004.pdf Supplejack Annual Report_2005.pdf

Surface sampling assay results Surface sampling location, assay method Technical report for the period 1 Jan. 2003 – 31 Dec. 2003 Technical report for the period 1 Jan. 2004 – 31 Dec. 2004

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1.0 SUMMARY

EL 22965 'Bluebush' was part of the Supplejack Project which lies in Central Australia approximately 250km east-southeast of Halls Creek (Figure 1). The Supplejack Project comprised Exploration Licences (EL) 5888, 8809 and 22965 and formed part of a Joint Venture agreement between Tanami Gold NL (TGNL) and Barrick Gold of Australia Limited (BGAL). EL 22965 'Bluebush' was granted in February 2003 to Tanami Exploration NL (TENL), a wholly owned subsidiary of Tanami Gold NL (TGNL), a publicly listed company. This report describes exploration carried out on the final area of the tenement after the required relinquishments (Figure 2).

Exploration consisted of detailed airborne magnetic, radiometric and digital elevation survey, data compilation and interpretation, geological field mapping and geological compilation and two reconnaissance including rock chip samples, as summarised in the table below.

Table 1: Summary of Exploration

Activity	Details
Airborne Magnetic Survey 2003	
Radiometric Survey 2003	
Digital Elevation Survey 2003	
Geological Field Mapping 2003	
Rock chip Sampling 2003	2 samples for 34 assays
Geological Compilation 2004	
Geological Re-interpretation 2006	
Geophysical Data Re-compilation 2006	

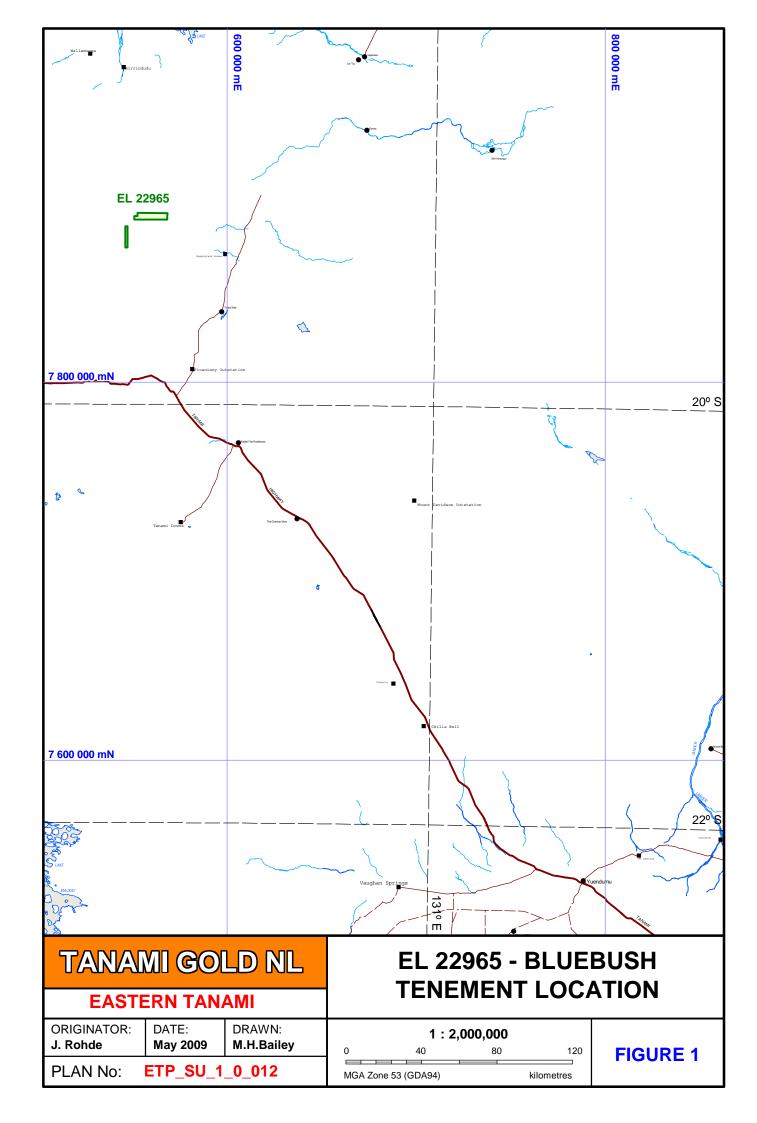
No significant elevated gold or base metal values were returned from the reconnaissance sampling. The best gold assay value returned was 2ppb from rock chip sample TA 75356. The tenement was relinquished based on lithology, lack of previously identified mineralisation and negative exploration results.

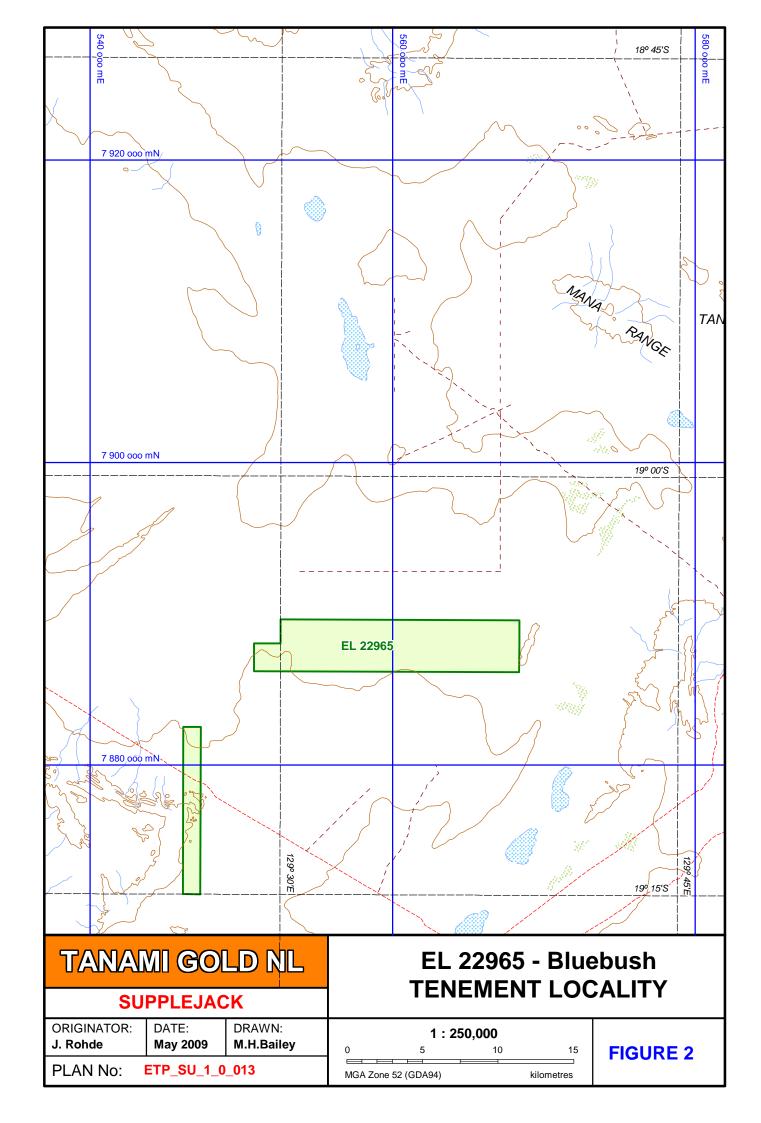
2.0 INTRODUCTION

(from Purcell, 2004)

The Supplejack Project is located approximately 250km east-southeast of Halls Creek, in the northwestern portion of the Tanami Desert. The tenement group lies on the Tanami (SE52-15) and Birrindudu (SE52-11) 1:250,000 geological map sheets. Access from Halls Creek is southeast via the unsealed Tanami Highway for approximately 320km to the Tanami Mine, then 80km north along the Lajamanu (Hooker Creek) Road to the Supplejack Downs homestead, then 40km northwest using station and access tracks. Access from Alice Springs is northwest via the Tanami Highway for approximately 700km until the Lajamanu turnoff (Figure 2).

The Lajamanu community is the nearest established town and is approximately 190km by road to the northeast. 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. Scarps of flat lying Proterozoic sandstones (20-50m) surround the plains to the north, east and west of the project,





and support little but spinifex and sparse acacia scrub. Occasional springs and ephemeral waterholes occur close to these scarps.

This report covers all exploration on EL 22965 carried out between the date of grant, 13 February 2003, and the surrender date of the 12 February 2009.

3.0 TENURE

EL 22965 formed part of the Supplejack Project. TENL, the registered holder of the tenement, surrendered EL 22965 on the 12 February 2009. Tenement details are shown in **Table 2**.

Table 2: Tenement Details

Tenement	Tenement No	Blocks Granted	Blocks Relinq. 2007	Blocks Relinq. 2008	Blocks Relinq 2009	Grant Date	Surrender Date
Bluebush	EL 22965	68	9	34	25	13 Feb 2003	12 Feb 2009

Tanami Exploration NL, a wholly owned subsidiary of Tanami Gold NL (TGNL), is the registered title holder of the tenements. Barrick Gold of Australia Limited (Barrick) managed exploration through the Tanami (NT) JV agreement with TGNL, from December 2000 to December 2005.

4.0 GEOLOGY

(from Rohde, C., 2007)

4.1 Regional Geology and Mineralisation

The Tanami Region comprises a package of Neo-Archaean to Meso-Proterozoic rocks, dominated by multiply deformed Palaeoproterozoic metasediments and felsic and mafic intrusives. It forms part of the North Australian Craton, separating the Palaeoproterozoic Halls Creek and Arunta Orogens. Collectively the region has a gold endowment in excess of 12 million ounces, and to date is recognised as one of the worlds most fertile Palaeoproterozoic gold provinces (TENL, 2005).

The Tanami Region has been divided into a number of stratigraphic packages.

ARCHAEAN

Basement

The presence of Archaean basement has been noted in drill core and in a single area of outcrop south east of the Granites mine. Rocks in this area, known as the Billabong Complex, contain banded granite and gneisses. SHRIMP zircon U-Pb dating of these rocks gives an age of 2514±3 Ma. Recent review of this outcrop suggests this age constraint may have sampled Archaean xenoliths within a Proterozoic gneiss.

PROTEROZOIC

Tanami Group

The Tanami Group unconformably overlies Archaean basement. Currently the Tanami Group is subdivided into two separate formations – the Dead Bullock Formation and the conformably overlying

Killi Killi Formation (Wygralak et. al., 2004). Work undertaken by Bagas (pers. comm. 2007) suggests an additional subdivision to the Tanami Group, namely the Stubbins Formation.

The Stubbins Formation is currently interpreted to be the oldest unit within the Tanami Group recently constrained by a ca. 1864 Ma SHRIMP zircon U-Pb date from an intrusive unit (Bagas et. al., 2007). The Stubbins Formation occurs as a ~200 m thick succession of iron-rich siltstone, graphitic and carbonaceous shale, banded and nodular chert, siltstone, basalt, dolerite sills and rare turbiditic sandstone (wacke), and a 2 to 3 km-thick lower succession of interlayered sandstone, pelite, and dolerite sills (Bagas et. al., 2007b).

The Dead Bullock Formation is interpreted to be stratigraphically above the Stubbins Formation, constrained by a SHRIMP U-Pb zircon age of ca 1838 Ma from a tuffaceous unit within the Callie Member (Bagas et. al., 2007a and references therein). The Dead Bullock Formation is further subdivided into two separate members – the lower Ferdies member and the overlying Callie member. The Ferdies member comprises a fining upward package of thinly bedded carbonaceous sandstone and siltstone. The Callies member comprises chemical sediments, silicate facies banded iron formation, calc silicate and cherts in a siltstone dominated package. Bands of chert nodules are common. The upper contact of the Dead Bullock Formation is considered gradational into the Killi Killi Formation (Lambeck, 2004).

The Killi Killi Formation is composed of poorly sorted sandstones with substantial detrital mica component. The formation is interpreted to be a 4000 m thick turbidite package (Wygralak et. al., 2004). Currently the age of the Killi Killi Formation is constrained by the ca. 1838 Ma age of the Dead Bullock Formation and the ca. 1820 Ma age of volcanic rocks overlying the Killi Killi Formation (Bagas et. al., 2007a).

Doleritic sills cross cut both Dead Bullock and Killi Killi Formations. Peperitic textures are locally developed indicating emplacement synchronous with deposition.

Tanami Group rocks were subjected to the 1835-1825 Ma Tanami Orogeny. This involved disharmonic and angular folding combined with regional metamorphism to greenschist and locally, amphibolite facies (Bagas et. al. 2007a).

Ware Group

Rocks of the Ware Group are currently interpreted to unconformably overly the Tanami Group. The Ware Group comprises four distinct packages.

Quartz sandstone and granular conglomerate comprise the Mt Winnecke Formation (ca 1825 Ma). Volcanogenic sandstone interbedded with felsic volcanic rocks comprise a younger package known as the Nanny Goat Volcanic Complex (ca. 1820 Ma). Conglomeratic sandstone, siltstone and fine grained sandstones comprise the Century Formation (1825-1815 Ma) and wacke and siltstone comprise the Wilson Formation (ca. 1815-1800 Ma) (Bagas et. al., 2007a and references therein).

Intrusives of the Birthday Suite are thought to correlate with Ware Group volcanics as interpreted intrusive ages are between 1825 and 1850 Ma. Birthday suite intrusives are generally restricted to the north east part of the Tanami.

Mount Charles Formation

The Mount Charles Formation contains poorly exposed intercalated basalts and fine to coarse turbidite, currently interpreted to have been deposited in a narrow continental rift setting (Wygralak et. al. 2004). The Mount Charles Formation is limited to the western margin of the Frankenia Dome. It is believed to

uncomformably overly the Ware Group, and to be uncomformably overlain by the Birrindudu Group (Wygralak et. al., 2004).

A further five events of complex deformation are interpreted to have occurred to the aforementioned packages between 1820 and 1790 Ma (Bagas. et. al., 2007a and references therein) although current interpretation suggest the Mount Charles Formation may only have experienced the last event. This series of deformation events was accompanied by broadly synchronous emplacement of Frederick and Grimwade Suite intrusives.

Pargee Sandstone

The Pargee Sandstone consists of a thick bedded quartz arenite, lithic arenite and conglomerate, with a maximum thickness of 1300m (Wyralak et. al., 2004). The unit uncomformably overlies the Killi Killi Formation, and is overlain by Gardiner Sandstone of the Birrindudu Group.

Birrindudu Group

The Birrindudu Group occurs as a widespread uncomformable blanket across much of the Tanami. It is broken down into four separate units – The Gardiner Sandstone, Supplejack Downs Sandstone, Talbot Well Formation and Coomarie Sandstone. These units include lithic arenites, quartz arenites and conglomerates. Subtle variations make these units distinguishable.

PHANEROZOIC

Antrim Plateau Volcanics comprise the oldest reported Phanerzoic rocks within the Tanami Region. These normally consist of intensely weathered basalt >20 metres thick, capped by pisolitic laterite. The exposures are flat-lying and unconformably overlie the Proterozoic lithologies. (TENL, 2005)

The southern part of the Tanami Region is covered by Permian sandstone and conglomerate of the Canning Basin.

GOLD MINERALISATION

Bagas et. al. (2007a) suggests that gold was emplaced into Tanami Group lithologies as two separate events. This includes an early ca. 1835-1825 Ma gold event affecting the Stubbins Formation and a second 1790 Ma event in the Dead Bullock and Killi Killi Formations, the Ware Group, and Mt Charles Formation.

4.2 Local Geology

The Supplejack area comprises isolated rafts of Tanami Group basement and large granitoid bodies, surrounded and covered by thick sequences of flat lying Birrindudu Group sediments. These sediments form elevated plateaus rising 20-50 m above surrounding topography (Purcell, 2004). Outcrops of Tanami Group lithologies are relatively rare over the majority of the project area, occurring as highly weathered isolated outcrop and subcrop on shallow lateritic rises. Basement is more commonly covered by a transported horizon of alluvial and aeolian material.

Transported nodular and pisolitic gravels occur over and around the flanks of the majority of shallow rises. This material comprises both locally derived and transported material. In some cases, gravels are multiple metres thick, and locally iron cemented (ferricretes). Thickness of material decreases with increasing proximity away from rises.

Aeolian sands cover much of the low lying areas varying in thickness from less than 10 cm to multiple metres. Alluvial material commonly occurs immediately beneath aeolian sands. This material

comprises poorly sorted sands, clays and often basal gravels with thicknesses of single metres to in excess of 30 metres over areas of localised palaeochannel development. Silcrete is commonly developed within transported material in low lying areas.

Basement Tanami Group rocks comprise deformed and metamorphosed, fine to coarse poorly sorted sandstones, carbonaceous shale, ferruginous shale, chert, ferruginous chert, volcanogenic (pyroclastic?) sediments and dolerite dykes, intruded by stocks of granitic dykes. These are currently interpreted to comprise rocks of the Dead Bullock Formation.

Aeromagnetic assessment of the Supplejack area suggests that basement lithologies are complexly deformed. Tight NNW-SSE folding is apparent through much of the sequence defined by magnetically responsive dolerite marker units and outcrop exposures of deformed metasediment. Pervasive cleavages within pelitic units are believed to be axial planar to this event. An earlier ENE-WSW folding event is also thought to have influenced the area.

Aeromagnetics also suggests the presence of significant faulting and shearing throughout much of the area. A major NNW-SSW structure is observed transecting the west of the project area. This structure juxtaposes Tanami Group lithologies against a major lozenge shapes granitic body in the immediate Supplejack Project area. Numerous subsidiary structures to this domain bounding fault are also recognised throughout the Supplejack area. These are particularly prevalent southwest of the Supplejack tenement, where the major shear locally splays into horsetail structures.

The surrendered tenement area both the northern as well as the eastern portion is interpreted to be underlain mainly by lithologies of two Members of the Dead Bullock Formation - Ptdl - interbedded greywacke & siltstone, greywacke with dominant (low magnetics) and Ptdlh - interbedded greywacke & siltstone with abundant intercalated mafics (high magnetics). The Pgn - granitoids (low magnetics) and Pd - Birrindudu Group (undifferentiated) lithologies underlay the tenement to a lesser degree (Figure 4).

5.0 EXPLORATION COMPLETED

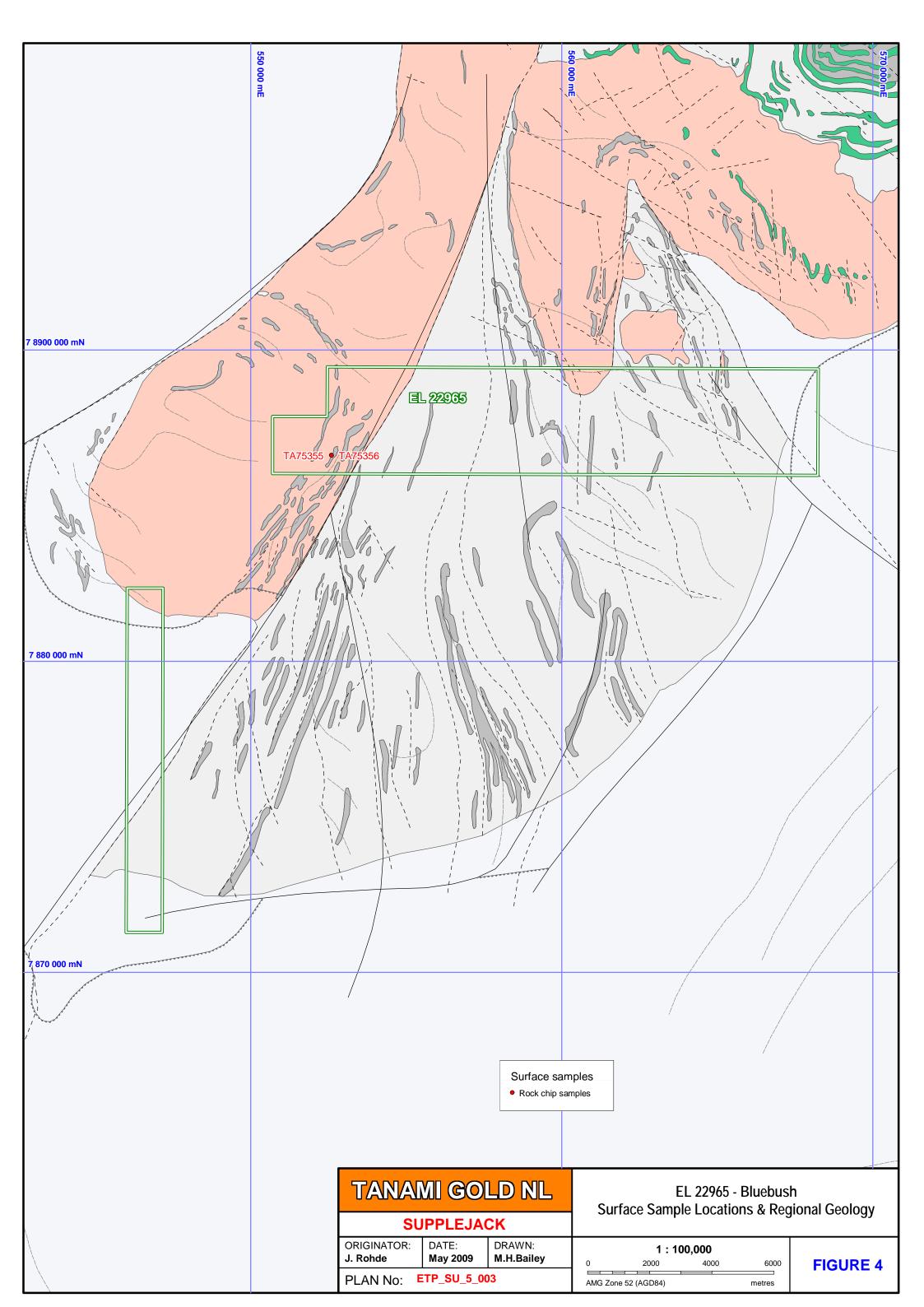
All (two) sample locations are shown on **Figure 4** and all sample and assay data are included in the digital appendix. All (three) annual reports (Purcell, 2004, 2005 and Rohde, 2007) are listed in the bibliography.

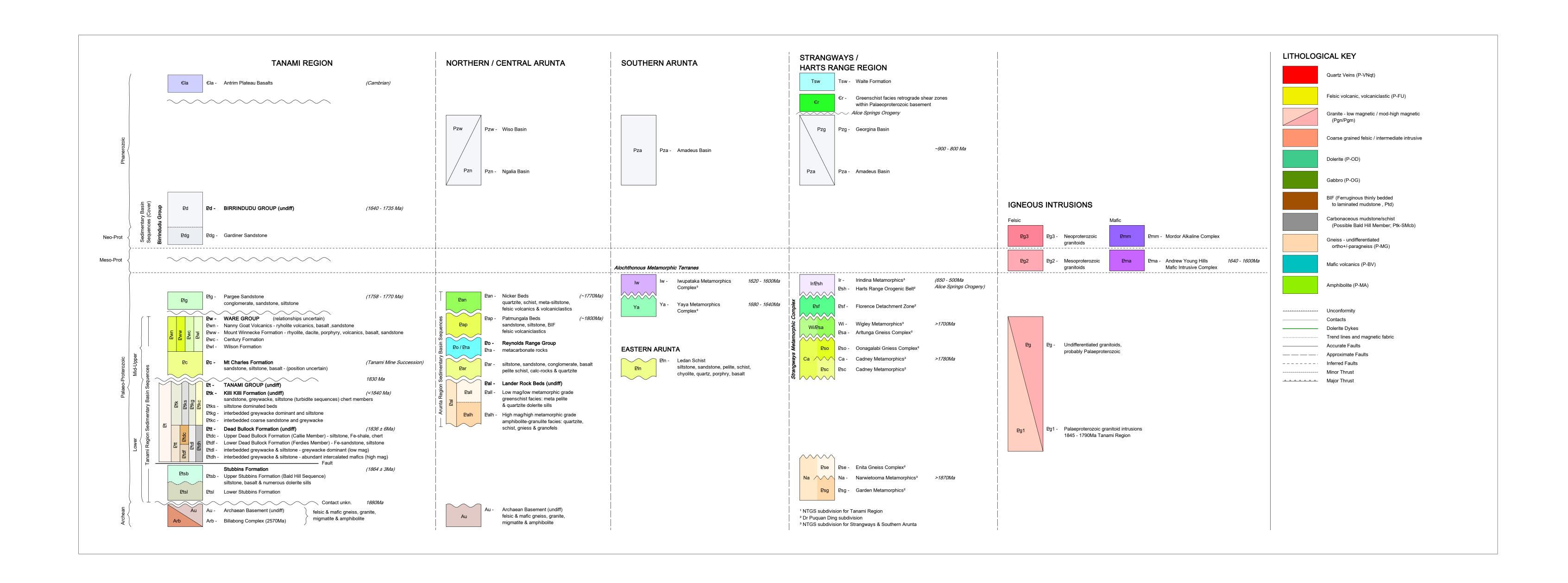
5.1 Year 1 13 February 2003 to 12 February 2004

Barrick Gold of Australia Limited first conducted exploration within the tenement group during 2003 with all activities detailed in Purcell, 2004 - (tr1117_A_2004). Work included detailed airborne magnetic, radiometric and digital elevation survey, detailed data compilation and interpretation, geological field mapping and the collection of two rock-chip samples. The rock chip samples were assayed for Au, Ag, As, Bi, Cu, Co, Fe, Mn, Mo, Ni, Pb, Pd, Pt, Sb, W and Zn. The samples did not return no elevated results. The geophysical survey was flown at 75m line spacing, in a 090°-270° orientation with a mean sensor height of 20m. Detailed airborne survey specifications are appended in the Purcell, 2004 report, which is in turn included in the digital appendix of this report.

5.2 Year 2 13 February 2004 to 12 February 2005

Exploration in the second year of tenure consisted of further geological compilation. No on-ground activities were undertaken on EL 22965 as the access agreement with the Central Land Council was pending during that period (Purcell, 2005).





5.3 Year 3 13 February 2005 to 12 February 2006

Management of EL22965 reverted to Tanami Exploration in June 2005.

No field work was carried out in the **third** year of tenure.

5.4 Year 4 13 February 2006 to 12 February 2007

Geological Re-interpretation

An assessment and compilation of the geology, gold mineralisation and extent of previous activities was compiled over the Eastern Tanami Project area including the Supplejack Project tenements which covered the Bluebush tenement as well. A geological re-interpretation of the Supplejack area incorporating 1:250,000 fact mapping, historic and recent drilling, close spaced aeromagnetics and the Barrick geological interpretation. The compilation is presented on **Figure 4**. The geophysical image is presented on **Figure 3**.

5.5 Year 5 13 February 2007 to 12 February 2008

No field exploration was carried out in the **fifth** year of tenure.

5.6 Year 6 13 February 2008 to 12 February 2009

No field exploration was carried out in the **sixth** year of tenure.

A data review, which considered the geological setting and lack of exploration targets led to the decision to surrender the tenement.

6.0 REHABILITATION

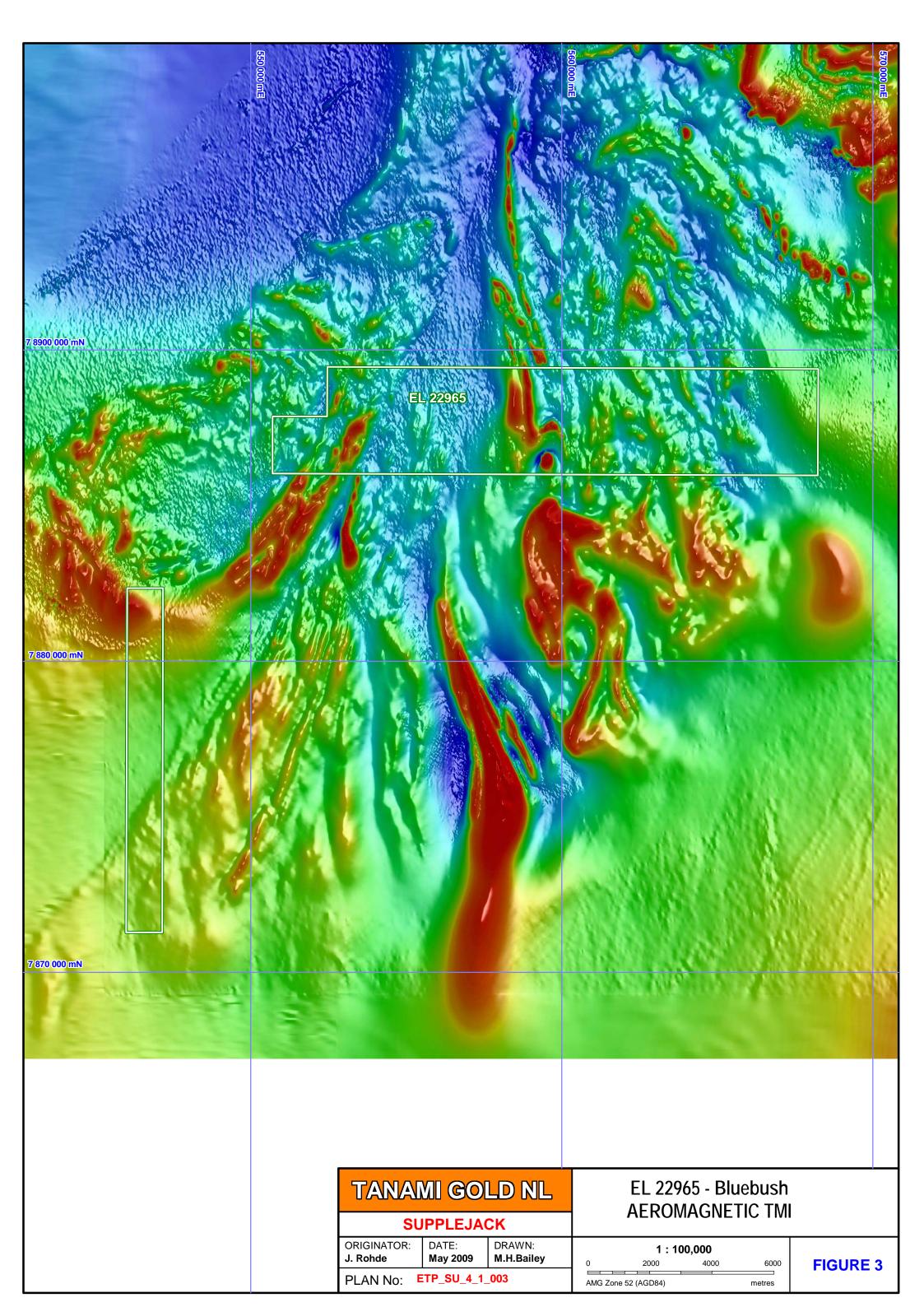
No ground disturbing work was conducted and therefore no rehabilitation is required.

7.0 FINAL EXPENDITURE FOR EL 22965

The final expenditure for EL 22965 for the period 13 February 2008 to 12 February 2009 as reported in the final expenditure statement lodged on 18 February 2009, is shown below in **Table 4**.

Table 4: Final Expenditure for EL 22965

Cost Element	\$
Salaries and Wages	1,301
Contractors	55
Computer & Drafting	237
Travel, Meals, Communications etc	118
Storage/ Freight	88
Administration/Overheads	270
Total	\$2,069



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