



**TANAMI**  
EXPLORATION NL

ABN 45 063 213 598

**PARTIAL  
RELINQUISHMENT REPORT**

**EL 10142 'Brumby Dam'**

**HARTS RANGE PROJECT**

From 21 May 2002 to 20 May 2006

**Author**  
C Rohde

July 2006

**Distribution:**

- o Department of Business, Industry & Resources Development (1)
- o Native Title Unit - Central Land Council (1)
- o Tanami Gold NL - Perth (1)

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## APPENDICES – DIGITAL

FILE	DESC
EL_10142_SG2_ROCK2001A	Composite rockchip samples
EL_10142_SG2_ROCK2003A	Rockchip samples
EL_10142_SG2_SOIL2001A	Soil samples
EL_10142_GEOLOGY_CODES	Description of geology codes

## 1.0 SUMMARY

Tanami Gold NL identified the potential for Selwyn-style copper-gold mineralisation and Coronation Hill-style gold-PGM mineralisation in the Harts Range region of Central Australia leading to the acquisition of a significant tenement holding in the district.

EL 10142 'Brumby Dam' forms part of the Harts Range Project and is situated approximately 110 kilometres northeast of Alice Springs (**Figure 1**). The tenement was granted to Tanami Exploration NL (TENL), a wholly owned subsidiary of Tanami Gold NL (TGNL). This report describes exploration carried out on the relinquished portions of EL 10142 after four years of tenure.

Exploration consisted of a regional assessment and reconnaissance rock chip (18 samples) and soil sampling (60 samples). The sampling mainly tested a retrograde shear zone of chlorite schist related to the Alice Springs orogeny. Several elevated gold values up to 380ppb were received from the rock chip sampling and values up to 6ppb Au from the soil sampling.

## 2.0 INTRODUCTION

EL 10142 forms part of TENL's Harts Range Project and is centred approximately 110 kilometres northeast of Alice Springs (**Figure 1**). Access to the tenement is via a limited number of tracks north of Claraville Station. Claraville is reached via the Arltunga Tourist Road east from the Stuart Highway or north from the Ross River Road via the Arltunga townsite.

This report provides details of exploration conducted by TENL on the relinquished portions of EL 10142. The tenement was initially acquired to cover the Florence Creek Shear Zone (FCS) and associated anomalous Pt-Pd-Au values returned from PNC's uranium exploration program.

## 3.0 TENURE

At the end of the second year of term, EL 10142 was the subject of a partial surrender in respect of 98 blocks (**Figure 2**), see **Table 1**.

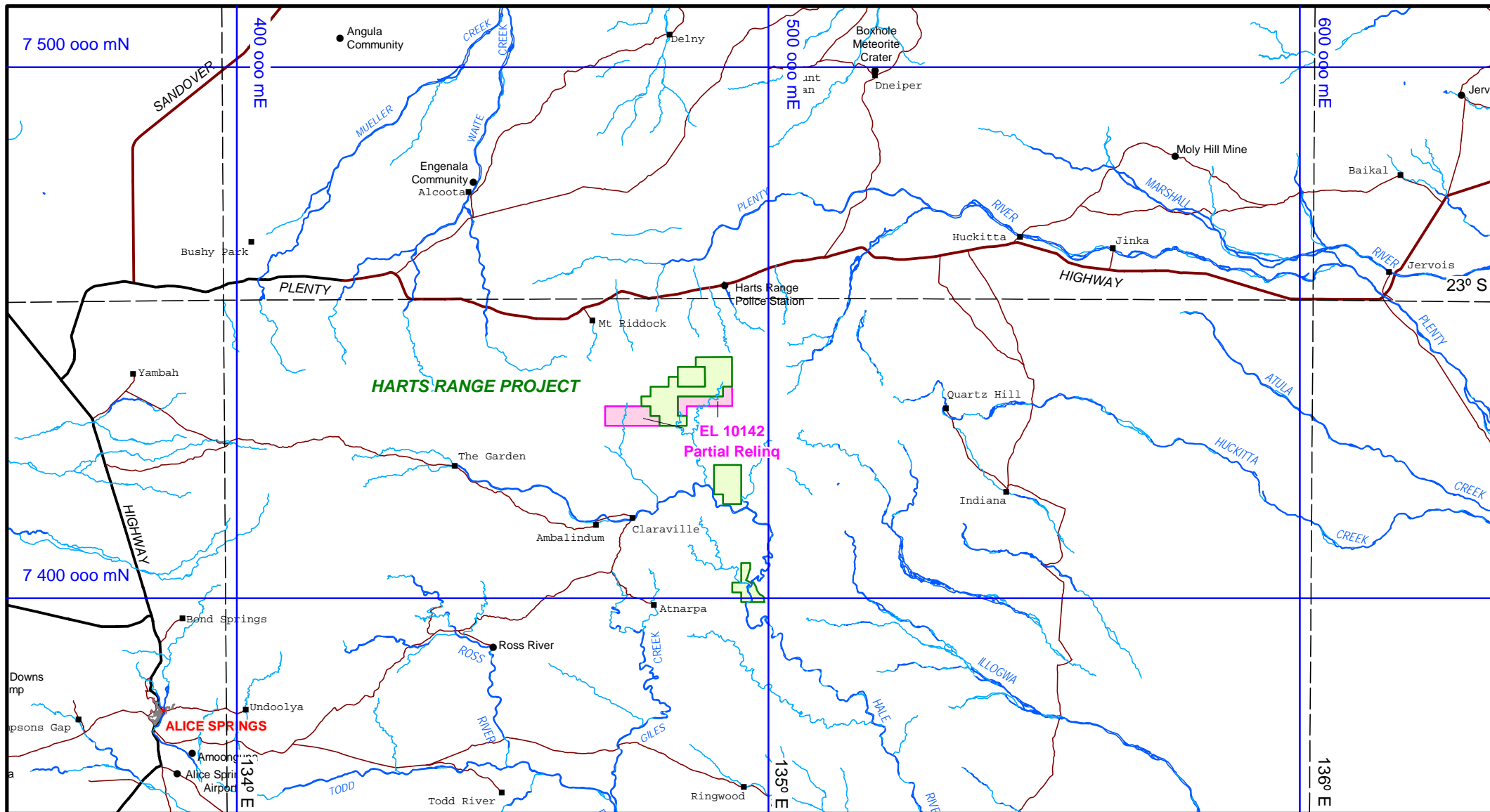
**Table 1: Tenement Details**

Tenement	Tenement No	Blocks Granted	Blocks Relinqu 2004	Blocks Relinqu 2006	Blocks Retained	Grant Date	Expiry Date
Brumby Dam	EL 10142	157	98	19	40	21 May 02	20 May 08

Prior to the grant of EL 10142, TENL entered into an Indigenous Land Use Agreement (ILUA) covering EL 10142 and contiguous tenements in the region. The Agreement (Harts Range ILUA D12002/001) was registered by the National Native Title Tribunal on 5 September 2002. Parties to the Agreement are TENL and the Central Land Council (CLC).

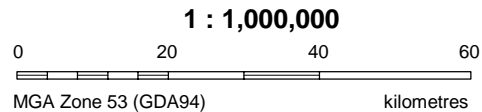
## 4.0 GEOLOGY

The Harts Range tenements lie within the Arunta Region, which has a stratigraphic, igneous and tectonic history spanning the Palaeoproterozoic to the Palaeozoic. The geology of the tenement is dominated by the Strangways Metamorphic Complex and overlying Amadeus Basin.



**FIGURE 1**

ORIGINATOR: <b>C.Rohde</b>	DATE: <b>July 2006</b>	DRAWN: <b>A. Weston</b>
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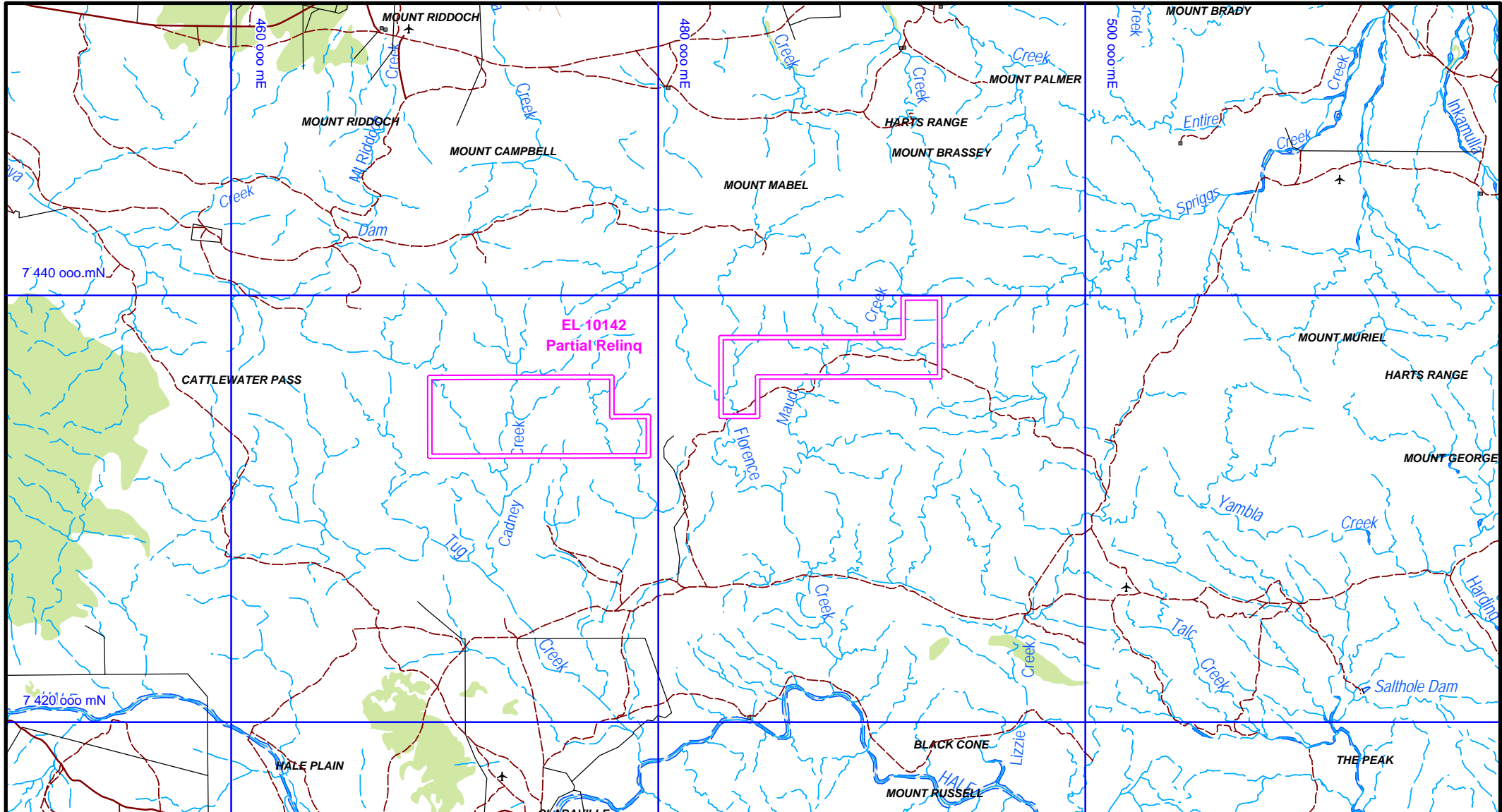


**HARTS RANGE**

**TENEMENT LOCATION**

**TANAMI GOLD NL**

PLAN No: **CAP\_HR\_1\_0\_005**



<b>FIGURE 2</b>	ORIGINATOR: C.Rohde	DATE: July 2006	DRAWN: A. Weston	<b>BRUMBY DAM</b>	<b>TANAMI GOLD NL</b>
	1 : 250,000			<b>TENEMENT LOCALITY</b>	
MGA Zone 53 (GDA94)			kilometres		

The Palaeoproterozoic Strangways Metamorphic complex is made up of three stratigraphic packages:

1. Sedimentary and volcanic (and intrusive?) rocks.
2. Pelite dominated siliclastic package with some intercalated quartzite and calc-silicate units.
3. Upper package dominated by marbles and calc silicate rocks (Hussy et al 2003). The Ongeva package encompasses package 1 and 2 while the Cadney package correlates with the third stratigraphic unit. (Scrimgeour, 2003).

The lowermost unit of the Neoproterozoic Amadeus Basin, the Heavitree Quartzite, overlies Palaeoproterozoic basement rocks forming high ridges flanked by steep escarpments. The contact between quartzite and basement within some parts of the tenement is tectonic, comprising low angle shear zones. Within these shear zones basement is highly strained and retrogressed to chlorite schist. These 'retrograde shear zones' were formed during the Alice Springs Orogeny (450 to 310Ma) and are the host to gold mineralisation in the Winnecke area.

A regional interpretation of the district was compiled for TENL by Dr Ding Puquan in April-May 2001 (Ding, 2001). The program covered an area of 10,000 km<sup>2</sup> centred on the Florence Creek Shear Zone and other structures associated with the Alice Springs Orogeny. A portion of this interpretation covering the relinquished sections of EL 10142 is presented as **Plate 1**. The western relinquished portion is mainly underlain by undifferentiated amphibolite to granulite facies metasediments and minor gneisses of the Cadney Metamorphics. The Florence Creek Shear Zone acts as a major terrane boundary separating Cadney Metamorphics from the quartzite, marble and calc-silicate rocks of the Harts Range Orogenic Belt in the eastern relinquished portion.

No Modat occurrences are located on the surrendered tenement areas.

## 5.0 TENL EXPLORATION

The initial phases of exploration in the Harts Range area comprised regional geological mapping, assessment of target commodities and prospectivity and limited reconnaissance sampling. Supporting maps are **Plate 1** and **Plate 2**, showing interpreted geology and aeromagnetics of the Brumby Dam tenement area.

Reconnaissance exploration was carried out in 2001 on EL 10142 prior to the grant of this tenement under the fossicking provisions of the Mining Act. Soil sampling and rock chip sampling on the relinquished tenement portions was testing a retrograde shear zone of chlorite schist related to the Alice Springs orogeny, targeting Pt-Pd-Au mineralisation. A total of 18 rock chip samples and 60 soil samples were taken on the relinquished tenement area (**Plate 3**).

The rock chip samples were analysed by Australian Laboratory Services for:

- Ag using AA45 with 1ppm detection limit,
- Au using PGM-MS23 with 1ppb detection limit,
- Bi using AA45 with 5ppm detection limit,
- Cu using Cu-AA45 with 1ppm detection limit and
- Pd, Pt using PGM-MS23 with 1ppb detection limit.

The soil samples were analysed by Genalysis for:

- Ag using AT/EOES with 0.5 ppm detection limit,
- Au using FA25/MS with 1ppb detection limit,

- Bi using AT/OES with 5ppm detection limit,
- Cu using AT/OES with 1ppm detection limit and
- Pd, Pt using FA25/MS with 1ppb detection limit.

All sampling and assay data resulting from exploration described above is presented as digital appendices. Several elevated gold values up to 380ppb were received from the rock chip sampling. Soil sampling returned values up to 6ppb Au.

## 6.0 REHABILITATION

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

## 7.0 BIBLIOGRAPHY

Ding, P. & James, P.R., 1985. Structural evolution of the Harts Range area and its implications for the development of the Arunta Block, Central Australia. *Precambrian Research*, 27, 251-276.

Ding, Puquan., 2001. Pre-Cenozoic solid geology map of the Strangways Range to Harts Range area, Explanatory Note. Unpublished TGNL in-house report.

Hussey, K., Huston, D. and Claué-Long, J., 2003. Base metal mineralisation in the Strangways Metamorphic Complex, Arunta Region, Australia: variations on a theme and/or different mineralisation styles. AGES, Record of Abstracts, Northern Territory Geological Survey.

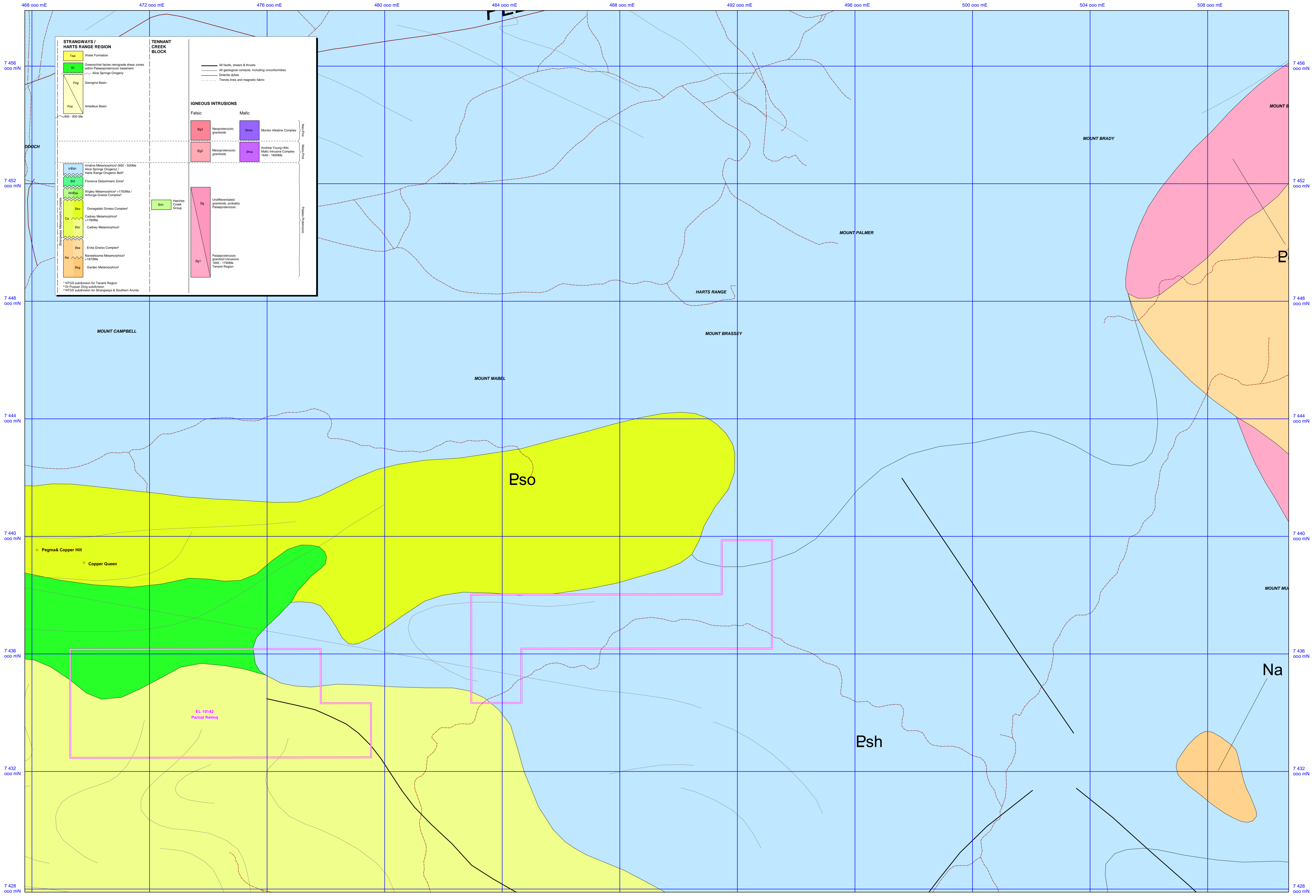
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Scrimgeour, I., 2003. Developing a revised framework for the Arunta Region. AGES, Record of Abstracts, Northern Territory Geological Survey.





**STRANGWAYS / HARTS RANGE REGION**

- Waike Formation
- Greenschist facies retrograde shear zones within Palaeoproterozoic basement
- Georgia Basin
- Aradevau Basin
- 800 - 800 Ma

**TENNANT CREEK BLOCK**

- Wigley Metamorphic Complex
- Wigley Metamorphic Complex > 1700Ma / Waike Green Complex
- Oonagabai Gneiss Complex
- Cadbury Metamorphic > 1700Ma
- Cadbury Metamorphic
- Enria Gneiss Complex
- Newestoma Metamorphic > 1870Ma
- Garden Metamorphic

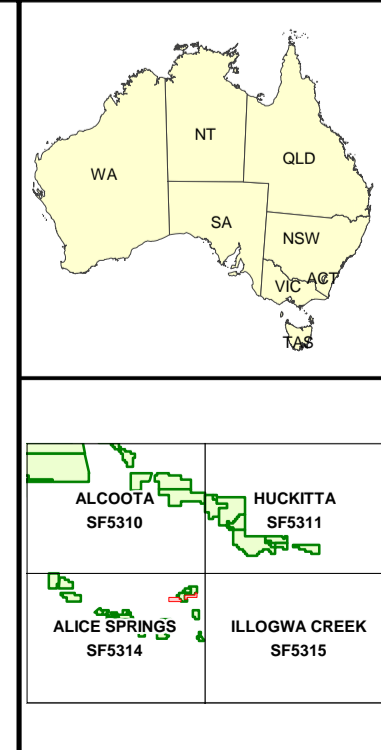
**IGNEOUS INTRUSIONS**

Felsic	Mafic
Eg3 Mesoproterozoic granitoids	Etm Mador Alkaline Complex
Eg2 Mesoproterozoic granitoids	Etm Andrew Young Hills Mafic Intrusive Complex 1640 - 1600Ma
Eg Undifferentiated granitoids, probably Palaeoproterozoic	
Eg1 Palaeoproterozoic granitoid intrusions 1845 - 1780Ma Tanami Region	

**Legend:**

- All faults, shears & thrusts
- All geological contacts, including unconformities
- Dominant strike-slip
- Trends free and magnetic fabric

\*NTGS subdivision for Tanami Region  
†Dy Pagan Ding subdivision  
\*NTGS subdivision for Strangways & Southern Arcs



**TANAMI GOLD NL**  
HARTS RANGE CENTRAL

**INTERPRETED GEOLOGY WITH MODAT LOCATIONS**

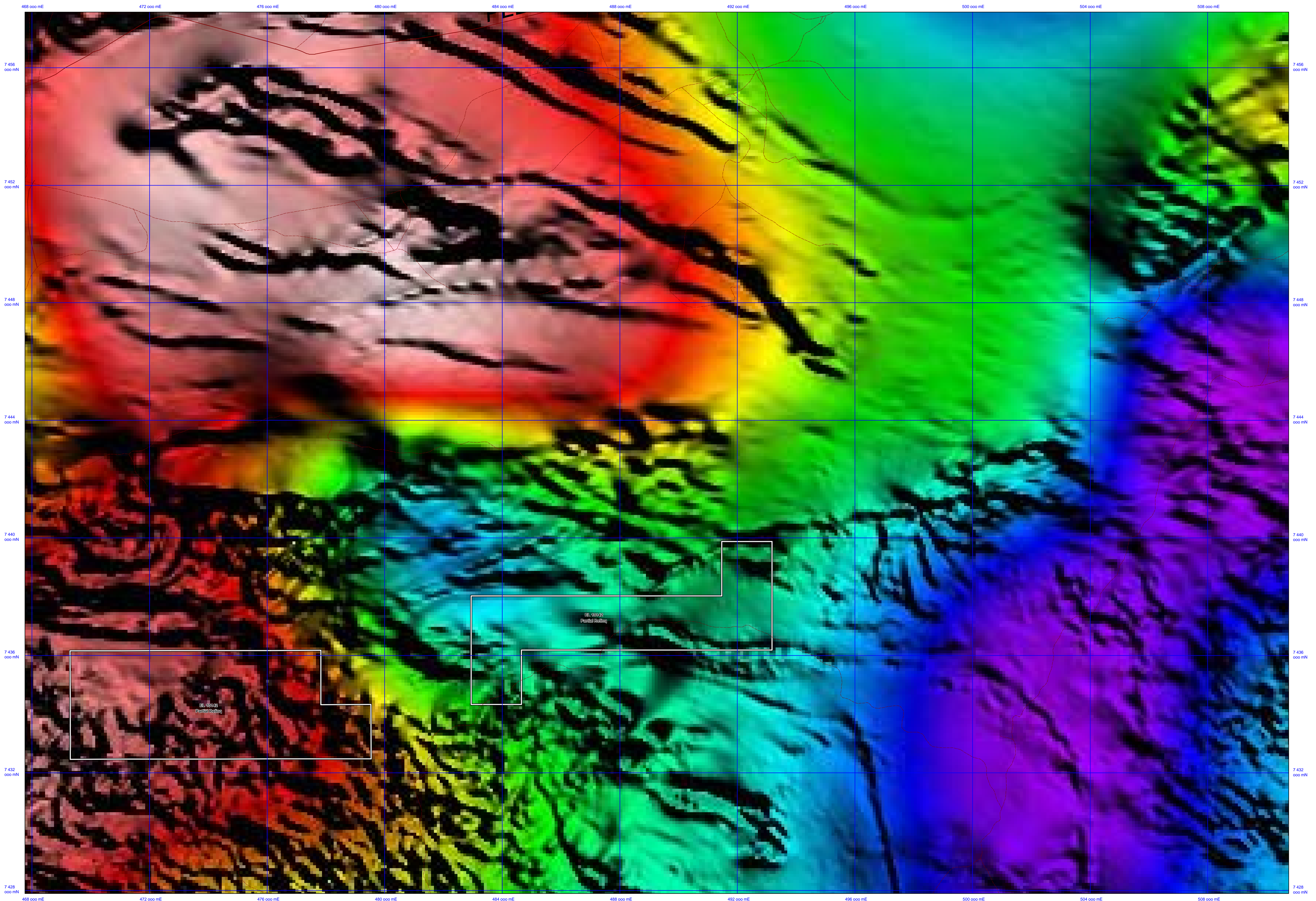
1000 0 1000 2000 4000 6000  
MGA Zone 53 (GDA94) **1 : 50,000** metres

ORIGINATOR: C. Rohde	DATE: July 2006	DRAWN: A. Weston
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PLAN No: CAP\_HR\_2\_003

**PLATE 1**





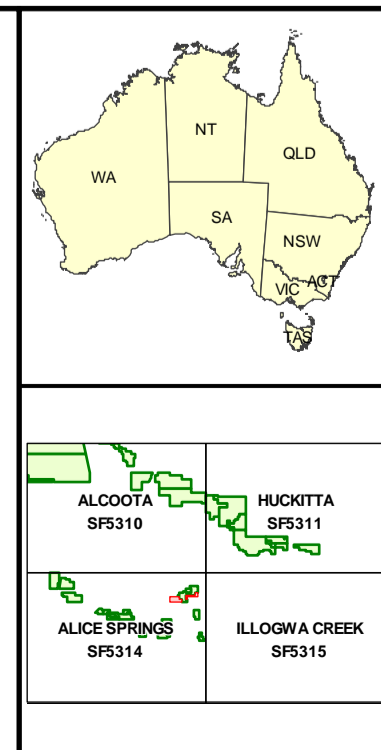
7 456 000 mN  
7 452 000 mN  
7 448 000 mN  
7 444 000 mN  
7 440 000 mN  
7 436 000 mN  
7 432 000 mN  
7 428 000 mN

7 456 000 mN  
7 452 000 mN  
7 448 000 mN  
7 444 000 mN  
7 440 000 mN  
7 436 000 mN  
7 432 000 mN  
7 428 000 mN

468 000 mE  
472 000 mE  
476 000 mE  
480 000 mE  
484 000 mE  
488 000 mE  
492 000 mE  
496 000 mE  
500 000 mE  
504 000 mE  
508 000 mE

EL 10199  
Pantab Reading

EL 10199  
Pantab Reading



**TANAMI GOLD NL**  
**HARTS RANGE CENTRAL**

**AEROMAGNETICS TMI & RESIDUAL GRAVITY**

1:50,000  
metres

ORIGINATOR: C. Rohde  
DATE: July 2006  
DRAWN: A. Weston  
PLAN No: CAP\_HR\_4\_1\_003

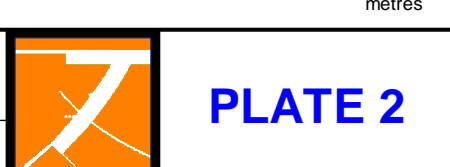
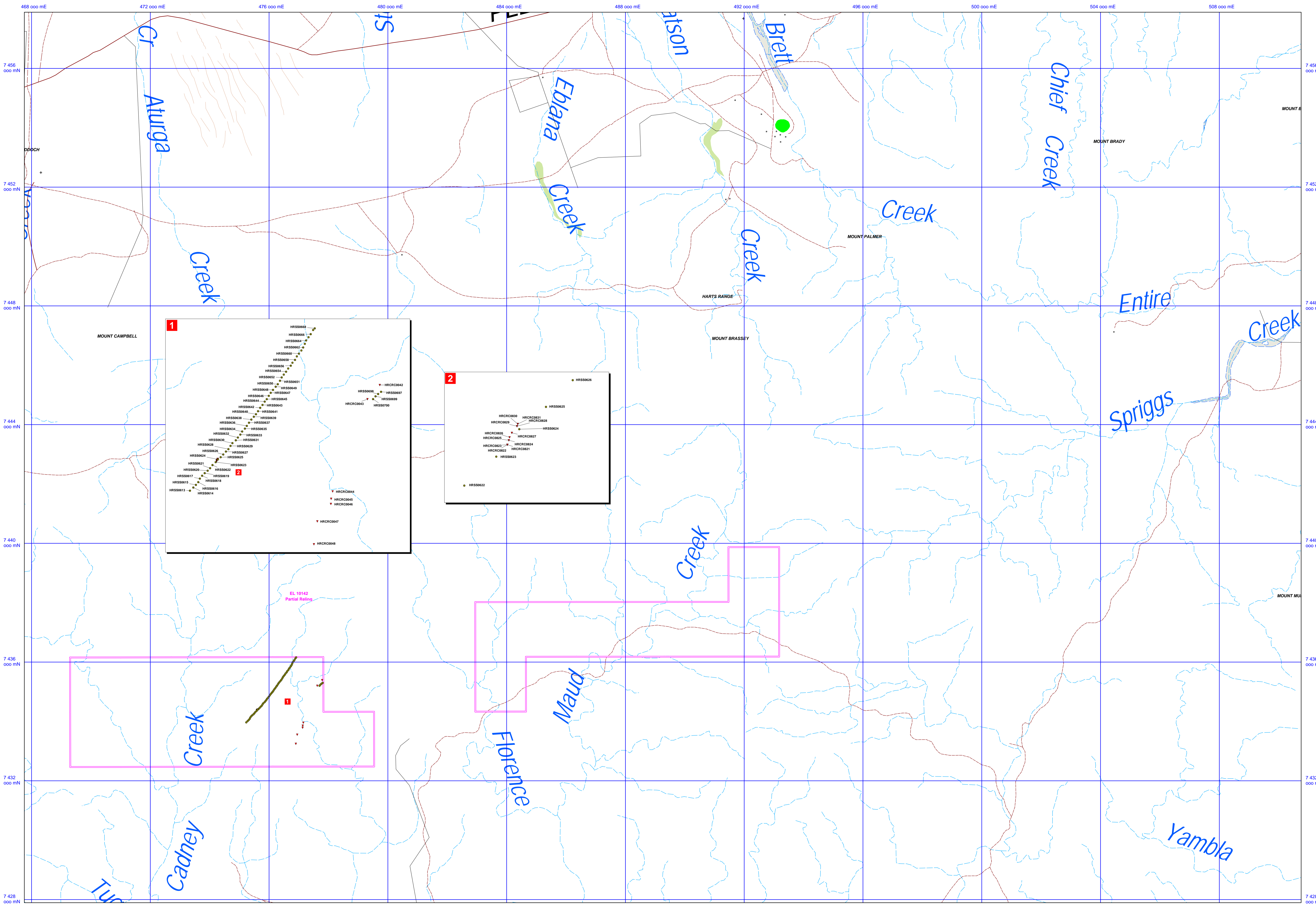


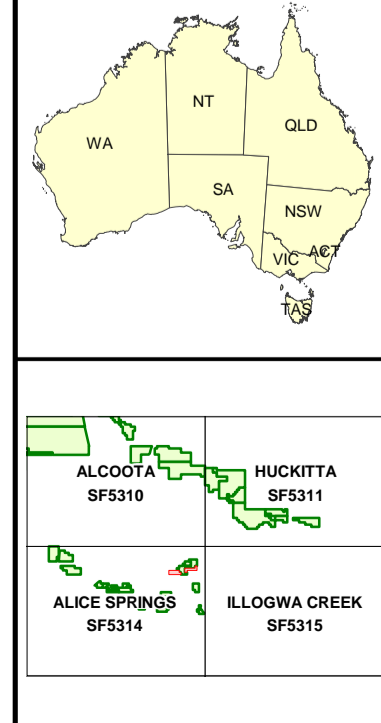
PLATE 2



468 000 mE 472 000 mE 476 000 mE 480 000 mE 484 000 mE 488 000 mE 492 000 mE 496 000 mE 500 000 mE 504 000 mE 508 000 mE

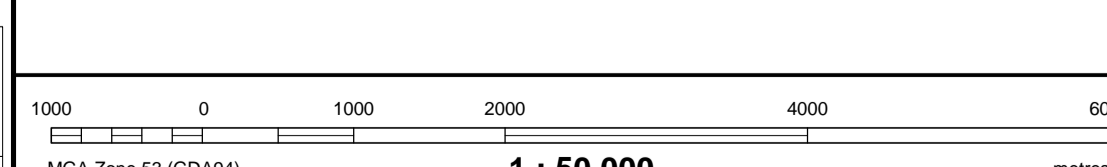
7 428 000 mN 7 432 000 mN 7 436 000 mN 7 440 000 mN 7 444 000 mN 7 448 000 mN 7 452 000 mN 7 456 000 mN

Surface Sampling  
 ▼ CRC (18)  
 ● SOIL (60)



**TANAMI GOLD NL**  
**HARTS RANGE CENTRAL**

**ROCK CHIP & SOIL SAMPLING LOCATION PLAN**



ORIGINATOR: C. Rohde DATE: July 2006 DRAWN: A. Weston  
 PLAN No: CAP\_HR\_5\_003



**PLATE 3**