



TANAMI EXPLORATION NL

ABN 45 063 213 598

FINAL REPORT

EL 10158 'MT RUBY'

HARTS RANGE PROJECT

From 21 May 2002 to 20 April 2006

Author
C Rohde

July 2006

Distribution:

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

CONTENTS

| | <i>Page</i> |
|----------------------------|-------------|
| 1.0 Summary | 1 |
| 2.0 Introduction..... | 1 |
| 3.0 Tenure | 1 |
| 4.0 Geology | 2 |
| 4.1 Regional Geology | 2 |
| 4.2 Local Geology..... | 2 |
| 5.0 TENL Exploration | 2 |
| 5.1 Year 1..... | 2 |
| 5.2 Year 2 to 5 | 3 |
| 6.0 Rehabilitation..... | 3 |
| 7.0 Expenditure..... | 3 |
| 8.0 Bibliography..... | 3 |

TABLES

| | |
|---------|--------------------|
| Table 1 | Tenement Details |
| Table 2 | Expenditure Year 4 |

FIGURES

| | | |
|----------|-------------------|---------------|
| Figure 1 | Location Plan | 1 : 1,000,000 |
| Figure 2 | Tenement Locality | 1 : 500,000 |

PLATES

| | | |
|---------|--|------------|
| Plate 1 | Interpreted Geology with MODAT Locations | 1 :50,000 |
| Plate 2 | Aeromagnetics - TMI Image | 1 : 50,000 |
| Plate 3 | Rock Chip Location Plan | 1 : 25,000 |

DIGITAL APPENDICES (supplied on CD)

| FILE | DESC |
|------------------|------------------|
| MR_SG2_ROCK2001A | ROCKCHIP SAMPLES |
| MR_SG2_ROCK2001B | ROCKCHIP SAMPLES |
| MR_SG2_ROCK2003A | ROCKCHIP SAMPLES |

1.0 SUMMARY

Tanami Gold NL (TGNL) identified the potential for Selwyn-style copper-gold and Coronation Hill-style gold-PGM mineralisation in the Harts Range region of Central Australia. TGNL, through its wholly owned subsidiary Tanami Exploration NL (TENL), acquired a significant tenement holding in the district to test for these styles of mineralisation. These tenements formed the Harts Range Project.

EL 10158 'Mt Ruby' is located approximately 130 kilometres ENE of Alice Springs (**Figure 1**) and was part of TENL's Harts Range Project. It was granted on 21 May 2002 to TENL and surrendered on 20 April 2006. This report describes the exploration on from grant to surrender.

During its first year of tenure, EL 10158 was the subject of a joint venture agreement between TGNL and Teck Cominco Australia Pty Ltd (Teck) and BHP-Billiton Pty Ltd (BHPB). Geodiscovery Pty Ltd managed the exploration for Teck-BHPB on the Albarta Area EL 10158. No work was done during this period on the relinquished tenement area.

EL 10158 is interpreted to be underlain by high metamorphic lithologies of the Entia Gneiss Complex of the Strangways Metamorphic Complex, the Illogwa Shear Zone and in the southern tenement area by gneisses of the Arltunga Gneiss Complex.

TENL carried out rockchip sampling for a total of 25 samples in 2001 and 2003 on the relinquished tenement area. Slightly elevated gold values up to 20ppb were returned. EL 10158 was also included in regional prospectivity studies and in April 2006 was recommended for relinquishment. .

2.0 INTRODUCTION

EL 10158 is located approximately 130 kilometres ENE of Alice Springs (**Figure 1**) on the Illogwa 1:250 000 map sheet (SF53-15). Access is east via the Ross Highway from Alice Springs and then via the Arltunga Tourist Track. Access through the tenement is limited to a few station tracks. An access road from Arltunga to the White Range goldmine, through the abandoned Atnarpa Station and a 4WD track to Ruby Gorge provide access to the northwest tenement area. Access to the south and central parts of the tenement is best achieved via station tracks north from Ringwood Station through to Illogwa Bore and Albarta Bore (Kavanagh, 2003).

EL 10158 is explored as part of TENL's Harts Range Project. Exploration was carried out by Tanami Exploration NL (TENL) and Teck Cominco Australia Pty Ltd (Teck) and BHP-Billiton Pty Ltd (BHP). TENL is a wholly owned subsidiary of Tanami Gold NL (TGNL) which is a publicly listed company. Teck-BHBP carried out exploration in 2002 on the tenement under a Joint Venture agreement with TGNL.

This report describes exploration on EL 10158 from its grant date to the date of relinquishment on 20 April 2006.

3.0 TENURE

EL 10158 'Mt Ruby' was granted to Tanami Exploration Limited on 21 May 2002. At the end of the fourth year of term, the tenement was surrendered; see **Table 1** and **Figure 2**.

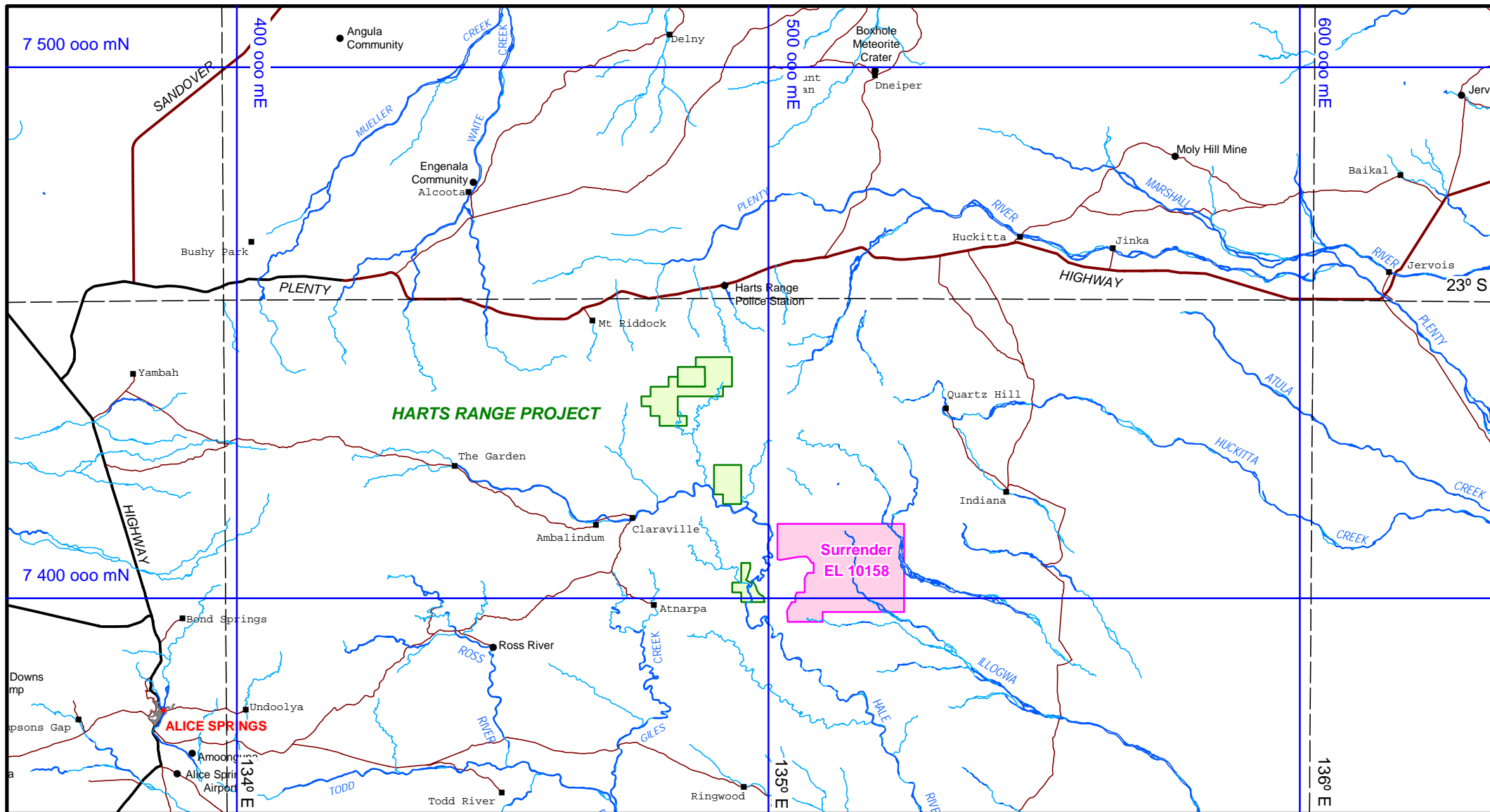


FIGURE 1

| | | |
|-------------------------------|---------------------------|----------------------------|
| ORIGINATOR: C.Rohde | DATE: July 2006 | DRAWN: A. Weston |
|-------------------------------|---------------------------|----------------------------|

1 : 1,000,000

0 20 40 60

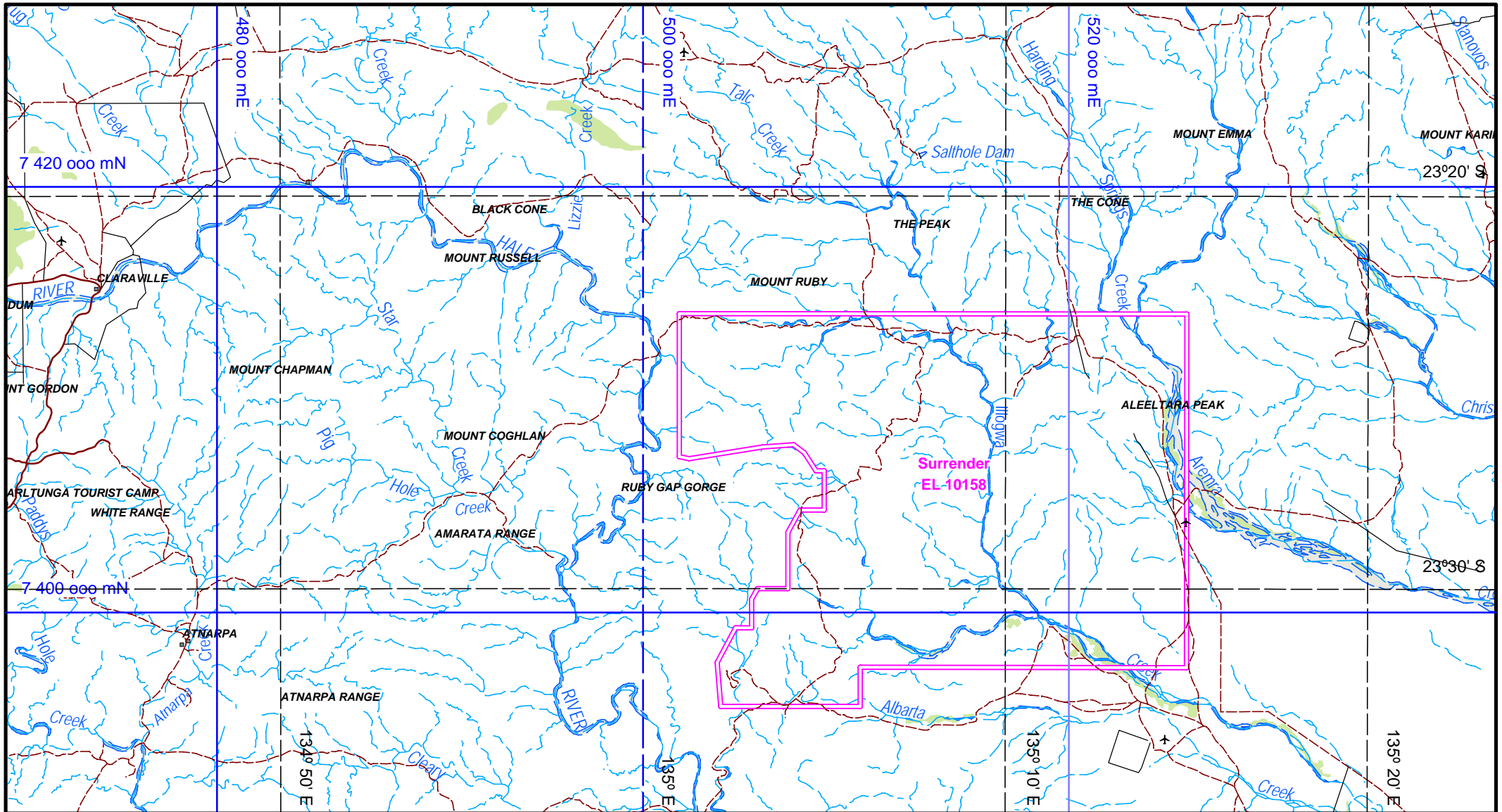
MGA Zone 53 (GDA94) kilometres

HARTS RANGE

TENEMENT LOCATION

TANAMI GOLD NL

PLAN No: **CAP_HR_1_0_003**



| | | | | | |
|-----------------|-------------------------------|---------------------------|----------------------------|--|-----------------------|
| FIGURE 2 | ORIGINATOR: C.Rohde | DATE: July 2006 | DRAWN: A. Weston | MT RUBY TENEMENT LOCALITY | TANAMI GOLD NL |
| | 1 : 250,000 | | | | |
| | MGA Zone 53 (GDA94) | | | | |

Table 1: Tenement Details

| Tenement | Tenement | Blocks | Km ² | Grant Date | Expiry | Covenant |
|----------|----------|--------|-----------------|------------|-----------|----------|
| Mt Ruby | EL 10158 | 117 | 374 | 21 May 02 | 20 May 08 | 13,500 |

4.0 GEOLOGY

4.1 Regional Geology

The Harts Range project area lies 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 the Irindina Province.

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 (Hussey et al 2003). The Ongeva package encompasses package 1 and 2 while the Cadney package correlates with the third stratigraphic unit. (Scrimgeour, 2003).

The Irindina Province, including the Harts Range Group, represents a Neoproterozoic to Cambrian succession that was metamorphosed during the Ordovician Larapinta Event (Mawby et al 1999). This succession is entirely fault bounded, and was juxtaposed against the surrounding Strangways Complex during the Alice Springs Orogeny at 450-440 Ma (Mawby et al 1999). The Irindina package consists of a succession of pelites, calc-silicate rocks and layered amphibolites that are interpreted to reflect rift sediments containing variably reworked volcanics (Scrimgeour, 2003).

The tenements of the Harts Range Project were initially acquired to cover possible strike extensions of the Oonagalabi Cu-Pb deposit and the Riddoch Amphibolite. A regional interpretation of the district was compiled for TENL by Dr Ding Puquan in April-May 2001 (Ding, 2001). A portion of this interpretation is presented as **Plate 1**. TMI magnetics are shown on **Plate 2**.

4.2 Local Geology

The Illogwa Creek 1: 250,000 geological map indicates that the geology of EL 10158 is split by a 4 km wide belt of retrograde greenschist facies schists known as the Illogwa Shear Zone. North of the shear zone are high grade metamorphics of the Harts Range Group and south of the shear zone are the high grade Albarta metamorphics. Outcrop is extensive in the area.

TGNL's interpretative Tanami-Arunta mapping (**Plate 1**) broadly agrees with the published mapping, with the important addition of a trans-Tanami structure crossing the Albarta metamorphics to the south of the Illogwa Shear Zone (Rohde, 2004).

The surrendered tenement portion is interpreted to be mainly underlain by high metamorphic lithologies of the Entia Gneiss Complex of the Strangways Metamorphic Complex, the Illogwa Shear Zone and in the southern area by gneiss of the Arltunga Gneiss Complex.

5.0 TENL Exploration

5.1 Year 1

In April 2001 the Company undertook a helicopter supported regional mapping program over an area of 10,000 km² centred on the Florence Creek Shear Zone covering the bulk of the Company's tenement applications in the district.

Under the fossicking provisions of the Mining Act, the Company carried out non-ground disturbing rockchip sampling programs on selected traverses over the Illogwa Shear Zone in the northern half of EL 10158.

A total of 24 rockchip samples were collected, which are shown on **Plate 3**. All samples were assayed by Genalysis Laboratories in Perth. Gold analysis was by the B/ETA method with a detection limit of 1ppb Au; arsenic and bismuth by B/AAS with a detection limit of 5ppm and 1ppm respectively. Multi-element analysis and base metal analysis methods and detection limits are listed in the relevant digital database appendices.

Results returned two low level gold anomalies, maximum value was 20 ppb Au (Kavanagh, 2003).

5.2 Year 2 to 5

TENL completed a regional assessment of the Harts Range area in 2003. The NTGS Illogwa Creek 1: 250 000 fact map indicates that the geology of EL 10158 is split by a 4km wide belt of retrograde greenschist facies schists known as the Illogwa shear zone. North of the Illogwa shear zone high grade metamorphics of the Harts Range Group are well exposed and south of the shear zone the geology comprises high grade Albarta metamorphics.

TENL's interpretative Tanami-Arunta mapping (**Plate 1**) fundamentally agrees with the NTGS mapping. In addition a trans-Tanami NE oriented structure crosses the Albarta metamorphics to the south of the Illogwa Shear Zone.

MODAT occurrences indicate two uranium occurrences in the southwestern corner of EL 10158.

NTGS open-file data report extensive rock chip sampling of magnetic highs in the Albarta metamorphics with no significant mineralisation encountered. In addition some drill testing of the Albarta uranium occurrence within a narrow NE-striking retrograde shear zone hosted by the Albarta metamorphics is reported.

Likely targets on EL 10158 would be Winnecke-Arltunga style epithermal Cu-Au mineralisation in the Illogwa retrograde shear zone or one of the thinner splays. Based on field reconnaissance the east-west trending Illogwa shear zone appears to be a broad zone (4km wide) of variably foliated basement rock. The more highly foliated zones are 10's to 100's of metres wide and include chlorite schist and K-feldspar-quartz-sericite schist (sheared felsic / granitic rock). A boudinaged quartz vein within chlorite schist located on a flexure in the shear zone was sampled (HRK255) and returned no significant result (**Plate 3**).

In 2006 the tenement was recommended for relinquishment.

6.0 REHABILITATION

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

7.0 EXPENDITURE

Expenditure with respect to the fourth and final year of tenure is shown in **Table 2** below:

Table 2: EL 10158 Expenditure 21 May 2005 – 20 April 2006

| Cost Element | \$ |
|---|----------------|
| Salaries and Wages | 875 |
| Consultants/Contractors | 505 |
| Camp and Field Costs, Safety, Communication | 66 |
| Vehicles/Fuel | 34 |
| Travel/Accommodation | 0 |
| Administration/Overheads | 222 |
| Total | \$1,702 |

8.0 BIBLIOGRAPHY

McLean, N. and Walters, S. 2003 Report on the exploration activities on EL's 9528, 9529, 9774, 10158, 10302, 10401, 22446, 22923 and EL Applications 23630 and 23650, Tanami Gold JV, Central Arunta Project, Northern Territory.

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.

Hand, M., Mawby, J., Kinny, P., & Foden, J. 1999a U-Pb ages from the Harts Range, Central Australia: evidence for early Ordovician extension and constraints on Carboniferous metamorphism. *Journal of the Geological Society, London*, 156, 715-730.

Hoatson, D.M., Stewart, A., 2001 Field Investigations of Proterozoic mafic-ultramafic intrusions in the Arunta Province, Central Australia. Canberra: Geoscience Australia, Record 2001/39.

Hussey, K., Huston, D. and Clauoué-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.

Kavanagh, M.E., 2003 First Annual Report on EL 10158 'Mt Ruby' for the year ending 20 May 2003, Tanami Exploration NL unpublished. Report to Northern Territory Department of Mines and Energy.

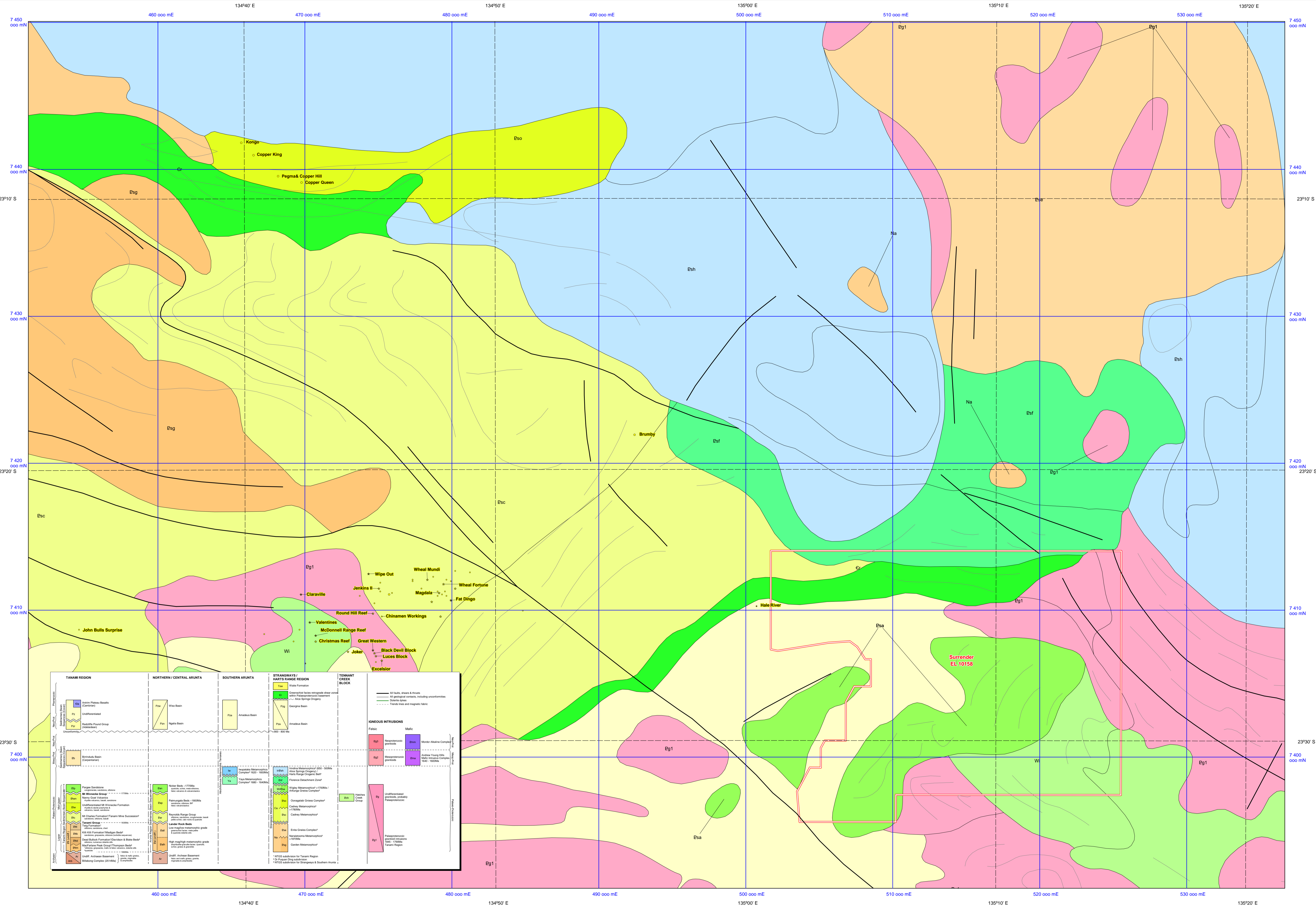
Mawby, J., Hand, M. and Foden, J., 1999. Sm-Nd evidence for high-grade Ordovician metamorphism in the Arunta Block, Central Australia. *Journal of Metamorphic Geology* 17, p. 653-668.

Rohde, C., 2004. First Combined Annual Report on the Harts Range Project E 10078, 10142, 10158, 10302, 22917, 22919, 22920, 23184, 23185, 23190, 23191, 23192, 23193, 23194, 23195, 23365 and 23750 for the year ending 27 February 2004. Report to Northern Territory Department of Mines and Energy.

Rohde, C., 2005. Second Combined Annual Report on the Harts Range Project E 10078, 10142, 10158, 10302, 22917, 22919, 23185 for the year ending 27 February 2005. Report to Northern Territory Department of Mines and Energy.

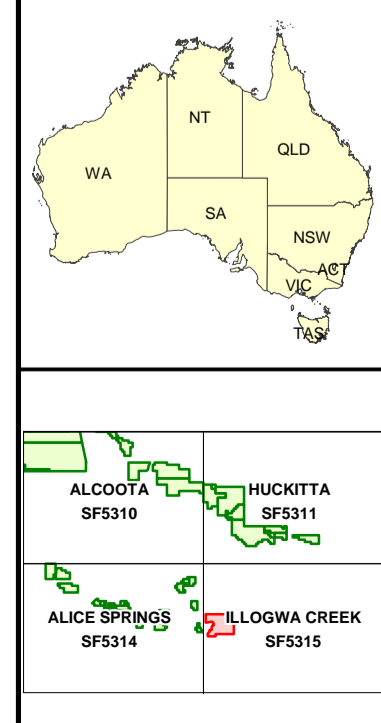
Scrimgeour, I., 2003. Developing a revised framework for the Arunta Region. AGES, Record of Abstracts, Northern Territory Geological Survey.

Sivell, W.J. & Foden, J.D., 1985 Banded amphibolites of the Harts Range meta-igneous complex, Central Australia: an early Proterozoic basalt-tonalite suite. *Precambrian Research*, 28, 223-252.



| TANAMI REGION | NORTHERN / CENTRAL ARUNTA | SOUTHERN ARUNTA | STRANGWAYS / HARTS RANGE REGION | TENMANT CREEK BLOCK |
|---|--|---|--|---|
| <ul style="list-style-type: none"> Arain Basalt Unfossiliferous Reeflike Form Group Unconformity | <ul style="list-style-type: none"> Miles Basin Ngala Basin | <ul style="list-style-type: none"> Aradaku Basin | <ul style="list-style-type: none"> Water Formation Geological units retrograde their own Arain Group Georgina Basin Aradaku Basin | <ul style="list-style-type: none"> Aradaku Basin |
| SYNECLINAL INTRUSIONS | | | | |
| <ul style="list-style-type: none"> Eg1: Neoproterozoic granite Eg2: Mesoproterozoic granite Eg3: Unfossiliferous granitic, and/or Palaeoproterozoic Na: Mafic W: Mafic Wi: Mafic Wj: Mafic Wk: Mafic Wl: Mafic Wm: Mafic Wn: Mafic Wo: Mafic Wp: Mafic Wq: Mafic Wr: Mafic Ws: Mafic Wt: Mafic Wu: Mafic Wv: Mafic Ww: Mafic Wx: Mafic Wy: Mafic Wz: Mafic | | | | |

- Modat & Tanami Prospects Legend**
- ★ Gold Mine (Active & Abandoned)
 - Gold Resource
 - Gold Advanced Prospect
 - Gold Prospect
 - Gold Prospect & Other Commodity
 - Gold Occurrences, Drilling or Geochem anomaly
 - Prospect Waiting Approval
 - Copper Prospect



TANAMI GOLD NL
HARTS RANGE

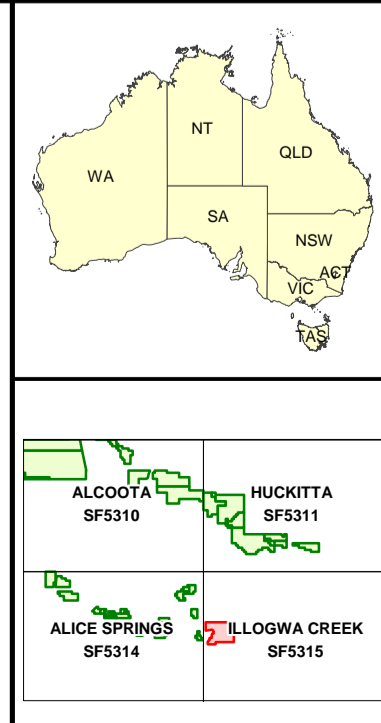
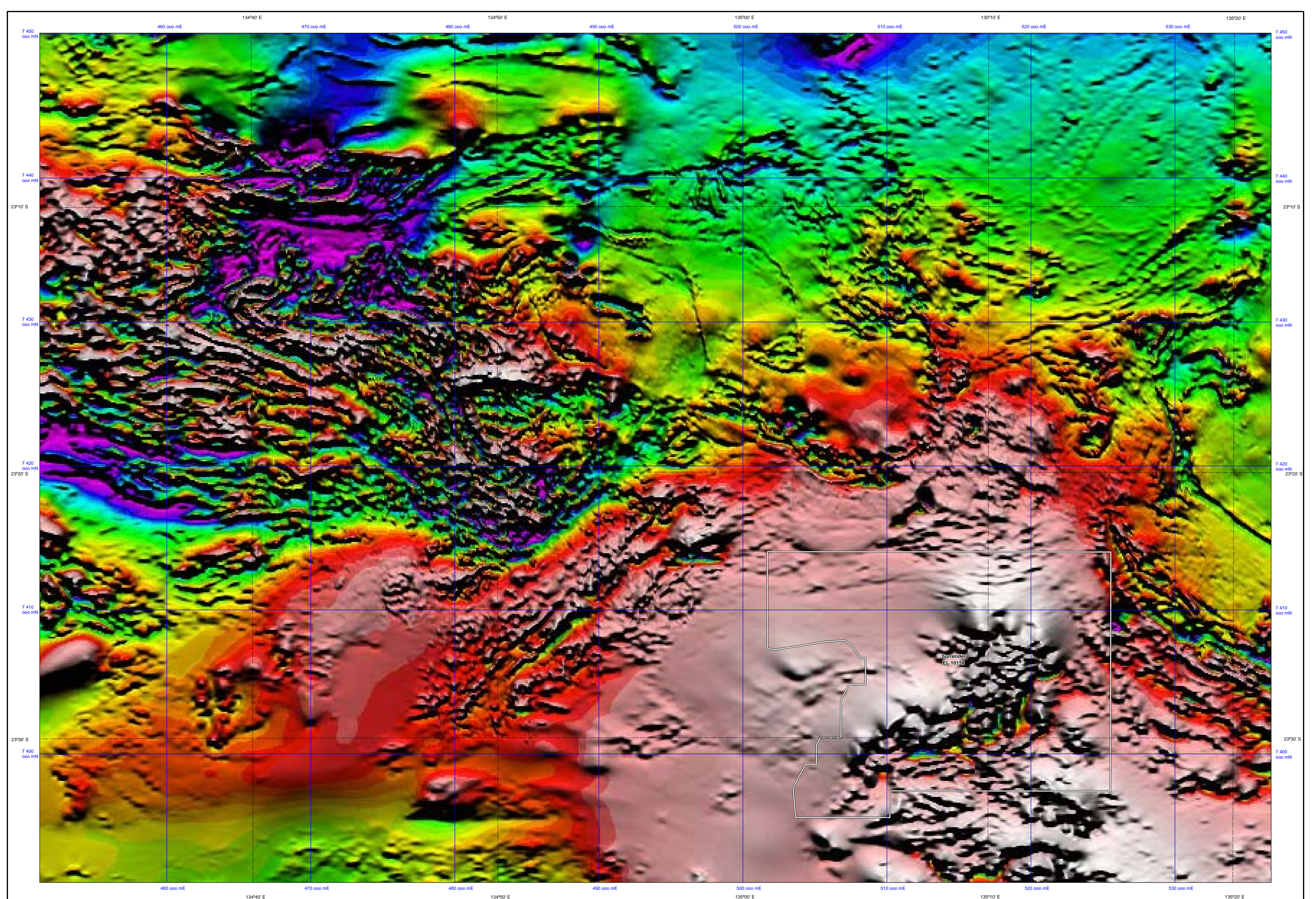
INTERPRETED GEOLOGY WITH MODAT LOCATIONS

2 0 2 4 6 8 12
kilometres

MGA Zone 53 (GDA94) **1 : 100,000**

ORIGINATOR: **C. Rohde** DATE: **July 2006** DRAWN: **A. Weston**

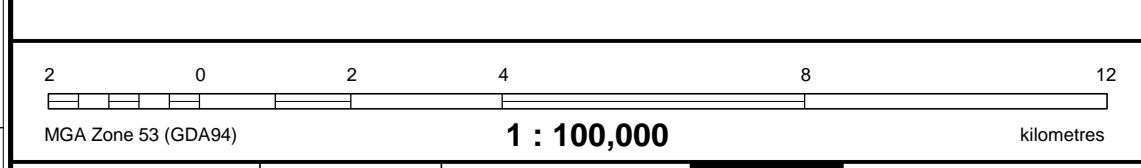
PLAN No: **CAP_HR_2_002** **PLATE 1**



TANAMI GOLD NL

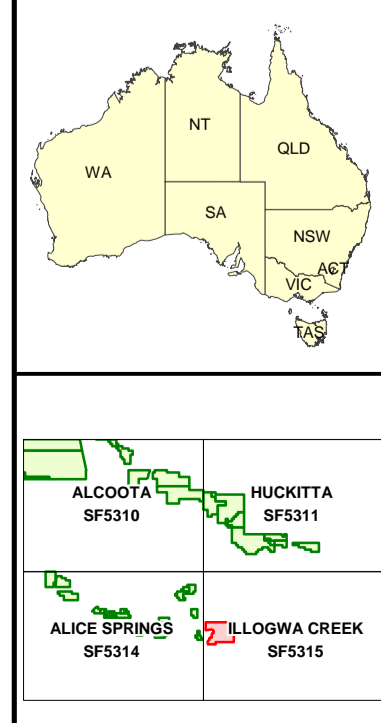
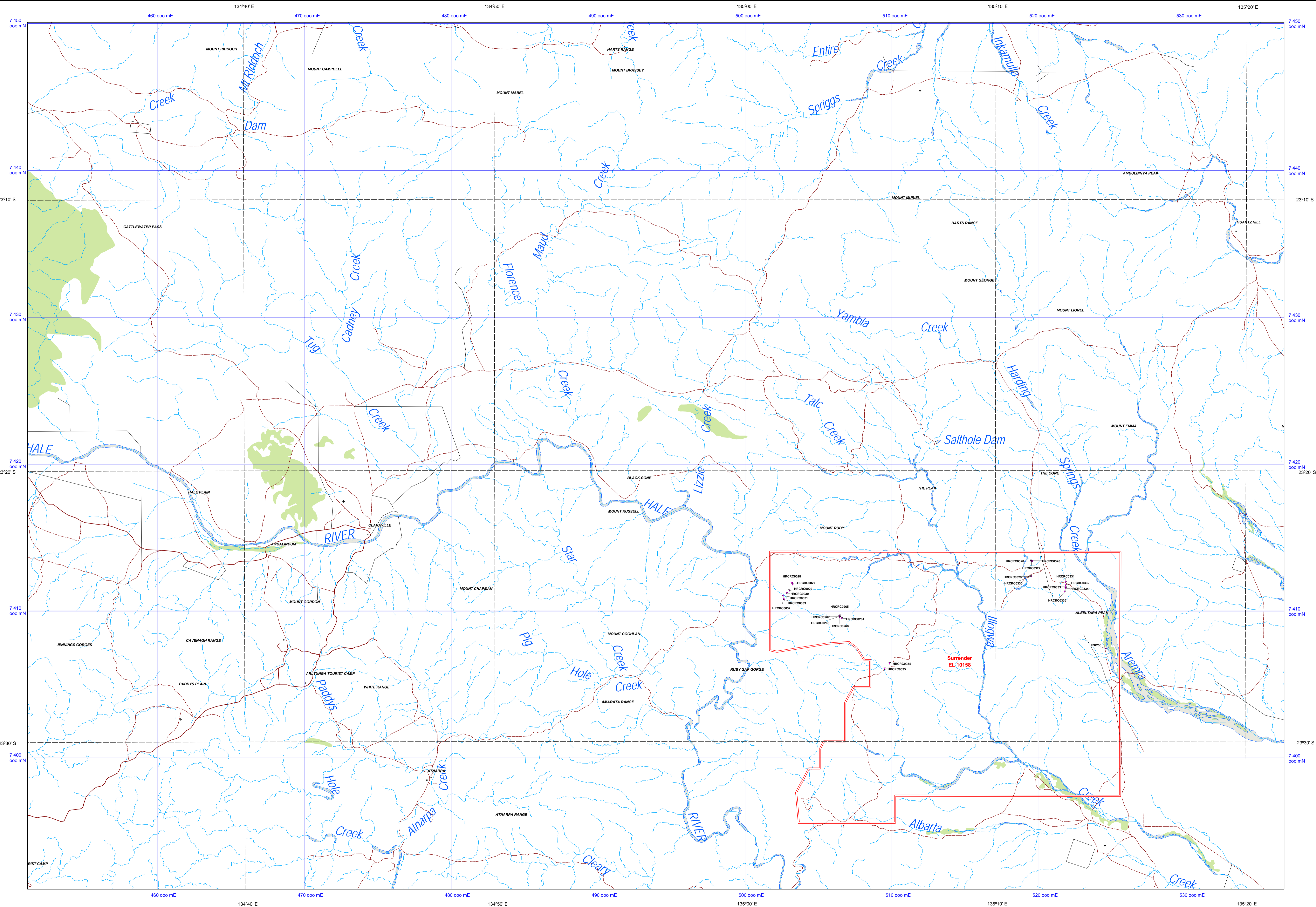
HARTS RANGE

AEROMAGNETICS - TMI



ORIGINATOR: C. Rohde DATE: July 2006 DRAWN: A. Weston
 PLAN No: CAP_HR_4.1_002





| | |
|--------------------------------|---------------------------|
| TANAMI GOLD NL | |
| HARTS RANGE | |
| ROCK CHIP LOCATION PLAN | |
| | |
| 1 : 100,000 | |
| ORIGINATOR: C. Rohde | DATE: July 2006 |
| DRAWN: A. Weston | |
| PLAN No: CAP_HR_5_002 | |