



TANAMI EXPLORATION NL

ABN 45 063 213 598

**PARTIAL
RELINQUISHMENT REPORT**

**EL 10158
MT RUBY**

HARTS RANGE PROJECT

From 21 May 2002 to 20 May 2005

Author
C Rohde

July 2005

Distribution:

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

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DIGITAL APPENDICES (supplied on CD)

FILE	DESC
L_10158_SG2_rock2002A	ROCKCHIP SAMPLES
EL_10158_SG2_rock2002B	ROCKCHIP SAMPLES - EXTRA ANALYSIS
EL_10158_SG2_MAG2002A	GROUND MAGNETICS TRAVERSES
EL_10158_GEOLOGY_CODES	DESCRIPTION OF GEOLOGY CODES USED FOR SURFACE
SAMPLING	

1.0 SUMMARY

EL 10158 'Mt Ruby' is located approximately 130 kilometres ENE of Alice Springs (**Figure 1**). The tenement was granted on 21 May 2002 to Tanami Exploration NL (TENL). After three years of tenure, the tenement was reduced in size pursuant to the requirements of section 26 of the *NT Mining Act*. Exploration on the relinquished portions of EL 10158 is the subject of this report.

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.

Teck-BHPB carried out rockchip sampling (14 samples) and a ground magnetic survey (17.3 line kms) on the southern surrendered tenement portion. EL 10158 was also included in regional prospectivity studies, including an assessment of geophysical data. No elevated gold values were returned.

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. After three years of tenure, the northern and southern sections of the tenement were surrendered. Exploration during this period 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-BHPB carried out exploration in 2002 on the tenement under a Joint Venture agreement with TGNL.

This report describes exploration on the surrendered portions of EL 10158 from its grant date to the date of relinquishment on 20 May 2005.

3.0 TENURE

EL 10158 'Mt Ruby' was granted to Tanami Exploration Limited on 21 May 2002. At the end of the third year of term, it was reduced in area pursuant to the requirements of section 26 of the *NT Mining Act*, see **Table 1** and **Figure 2**.

Table 1: Tenement Details

Tenement	Tenement No	Blocks Granted	Blocks Relinq.	Blocks Retained	Grant Date	Expiry Date
Mt Ruby	EL 10158	181	64	117	21 May 02	20 May 08

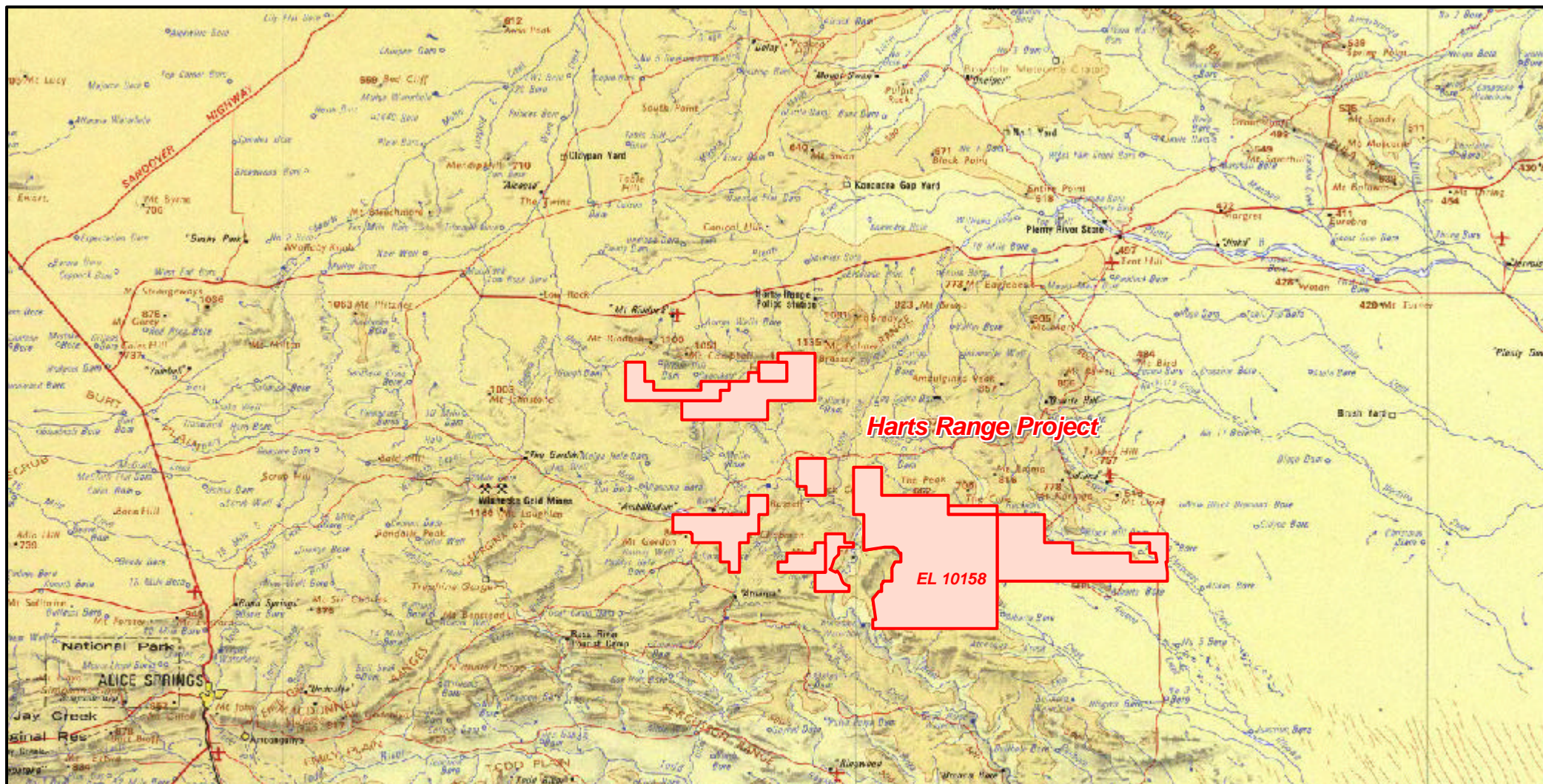


Figure 1

ORIGINATOR: C.Rohde	DATE: July 2005	DRAWN: C.Johnston
1 : 1,000,000		
WGS 84		

HARTS RANGE PROJECT LOCALITY

TANAMI GOLD NL

PLAN No: **47012_Tt_005**

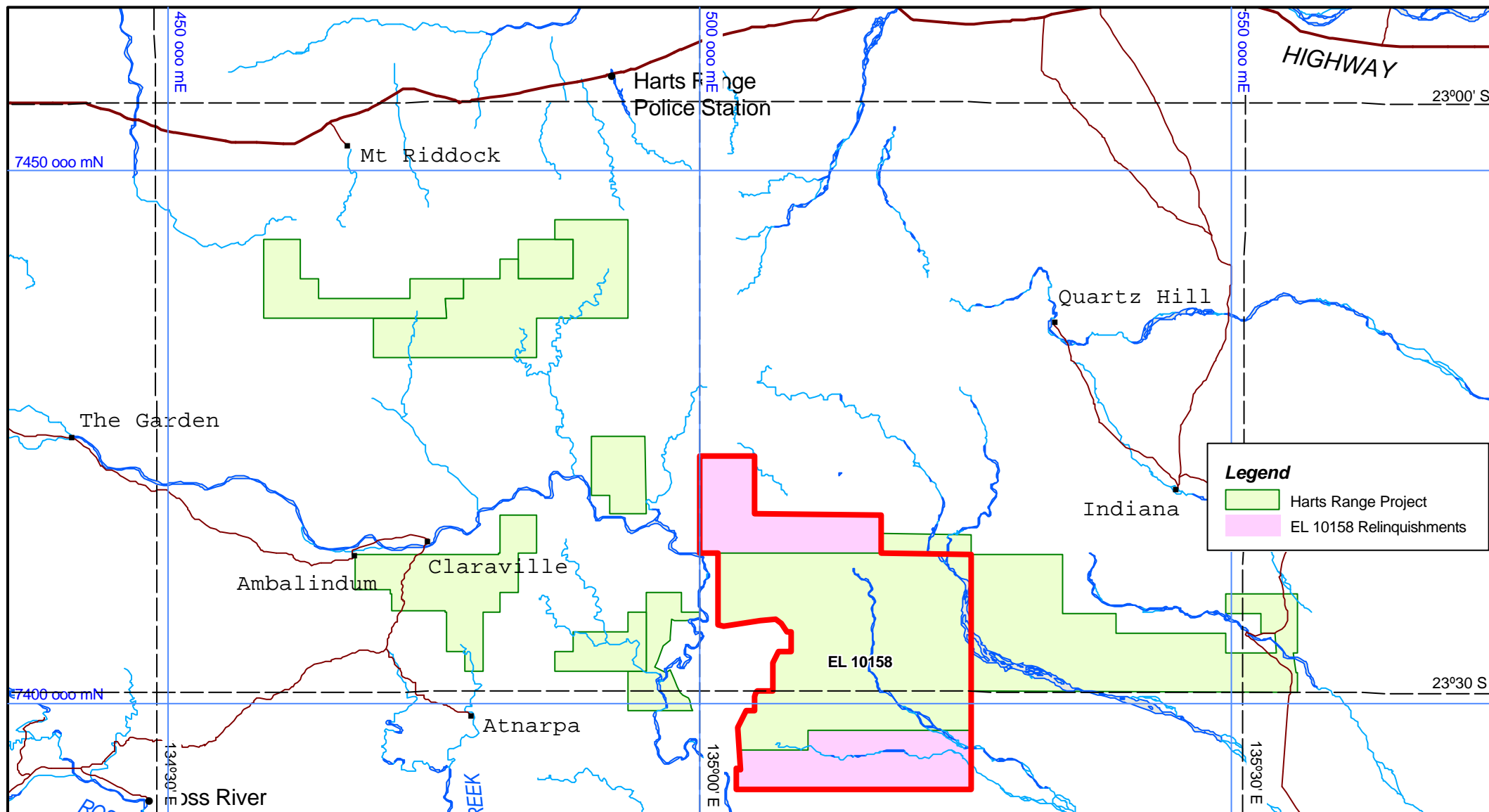


FIGURE 2

ORIGINATOR: C.Rohde	DATE: July 2005	DRAWN: A. Weston
<p>1 : 500,000</p> <p>0 10 20 30</p> <p>MGA Zone 53 (GDA94) kilometres</p>		

HARTS RANGE

EL 10158

TENEMENT LOCATION PLAN

TANAMI GOLD NL

PLAN No: **47012_Tt_001**

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 northern surrendered tenement portion is interpreted to be underlain by high metamorphic lithologies of the Entia Gneiss Complex of the Strangways Metamorphic Complex and gneisses of the Irindina Complex. The southern relinquished tenement area is underlain by gneiss of the Arltunga Gneiss Complex.

5.0 TENL / BHP Exploration

Initial exploration was carried out by Geodiscovery on behalf of Teck and BHPB. Geodiscovery identified the principal target of Broken Hill-type Pb-Zn-Ag mineralisation hosted by quartzofeldspathic

gneiss and pelitic metasediments, plus the potential for Iron Oxide Copper Gold mineralization associated with the emplacement of the Atneequa Granite.

The southeastern part of EL 10158 is characterized by intense magnetic features which were the focus of the initial field programme. A ground magnetic survey comprising five traverses was undertaken and geological observations were made where applicable. A total of about 17.3 line kilometers of ground magnetics were completed (**Plate 3**). Rockchip samples were collected of magnetite-bearing lithologies. A total of 14 samples were taken from the relinquished tenement area (**Plate 3**).

Samples were assayed by Genalysis for Au by AAS (ppb level) and As, Ag, Bi, Cd, Co, Cu, Mo, Ni, Pb, Sb, W and Zn by OES after aqua regis digestion. Sample details and assay results are included in the digital Appendix.

Geological mapping showed that the linear magnetic responses are due to magnetite-bearing calc-silicates and banded iron formations on the margins of the Atneequa Granite. There is no evidence of any Broken Hill-type or Iron Oxide Copper Gold alteration assemblages. No significant base metal or gold values were returned from the program and Teck-BHPB withdrew from the joint venture in January 2003.

Subsequently, TENL completed only regional work on the surrendered portions of EL 10158, see **Plate 1 and 2**. Based on the high metamorphic lithologies and Teck-BHPB's exploration results, the northern and southern portion of EL 10158 was recommended for surrender.

6.0 REHABILITATION

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

7.0 BIBLIOGRAPHY

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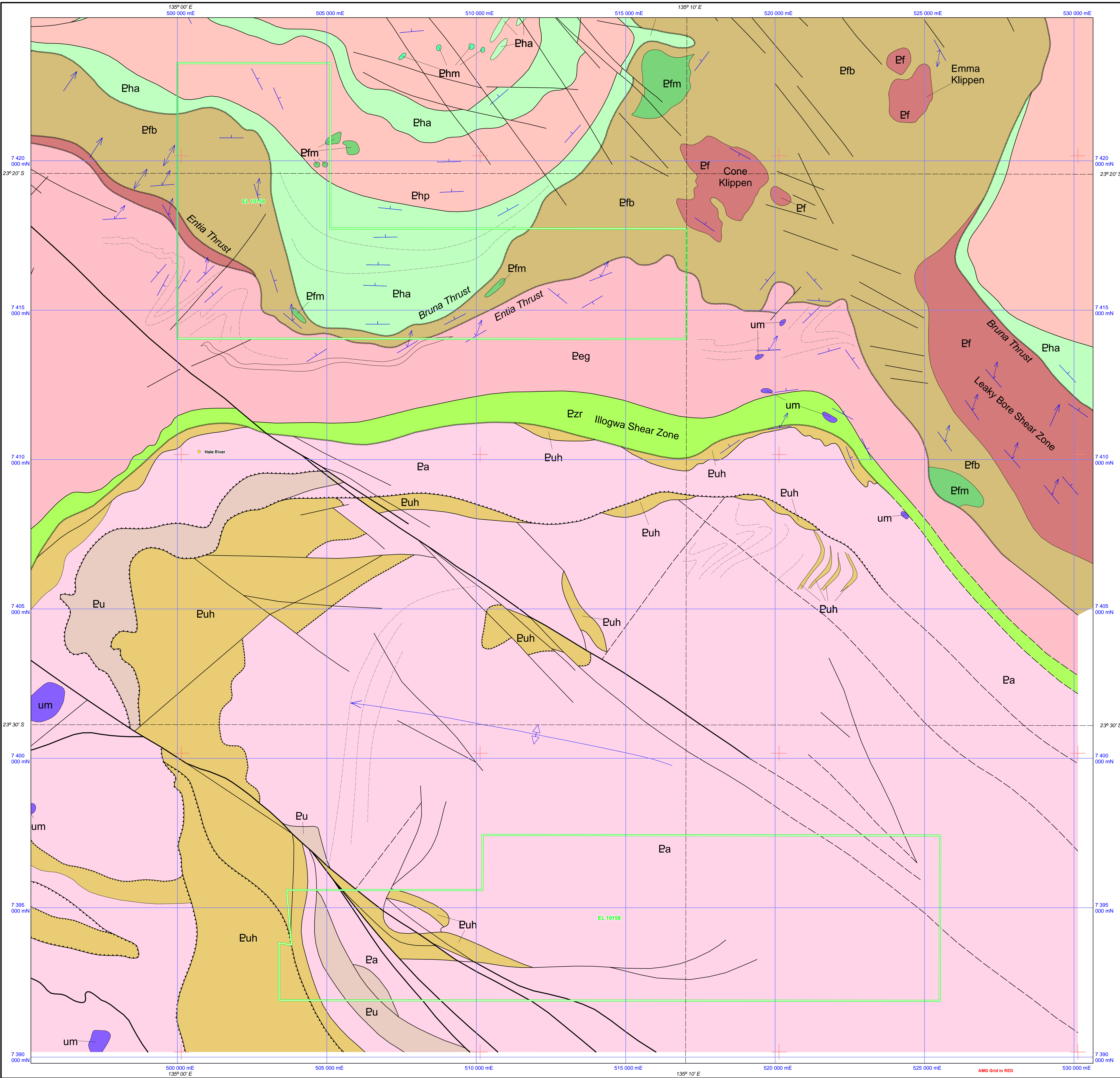
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PRECENOZOIC SOLID GEOLOGY
OF THE STRANGWAYS RANGE
TO HARTS RANGE AREA

LEGEND

- NEOPROTEROZOIC**
- Pz Undifferentiated Arayonga Formation to Palaeozoic
 - Pu Undifferentiated Heavytree Quartzite and Bitter Springs Formation
 - Puh Bitter Springs Formation
 - Puh Heavytree Quartzite

- Mordor Igneous Complex**
- Pm Ultramafic, diorite, norite, pyroxenite, phlogopite, shonkinite, syenite intrusions
 - Pmu Zoned ultramafic plugs (Bavheheart Intrusion)

- HARTS RANGE OROGENIC BELT**
- Pbr Induro Supracrustal Assemblage undifferentiated
 - Pba Amphibolite
 - Pbp Pelitic and semipelitic gneiss
 - Pbq Pure and impure quartzite, marble and calc-silicate rocks

- Metamorphosed Intrusive Rocks**
- Pig Granite
 - Pim Mafic rocks
 - Piu Ultramafic rocks

- FLORENCE DETACHMENT ZONE**
- Pfb Bruna Gneiss (mylonitised and metamorphosed granite)
 - Pfm Metamorphosed mafic rocks
 - Pf Florence Metamorphics (mylonitised granulite facies rocks of Strangways Metamorphic Complex)

- STRANGWAYS METAMORPHIC COMPLEX**
- Enita Gneiss Complex**
- Peg Tonalitic and granitic gneiss with minor metasediments
 - Pga Amphibolite
 - Pgm Metamorphosed mafic rocks
 - Pgu Metamorphosed ultramafic rocks
- Oonaglabi Gneiss Complex**
- Pog Granitic gneiss with minor metasediments
 - Pga Amphibolite
 - Pom Mafic granulite

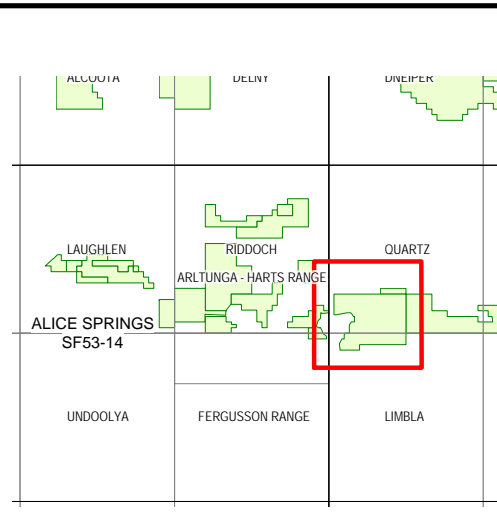
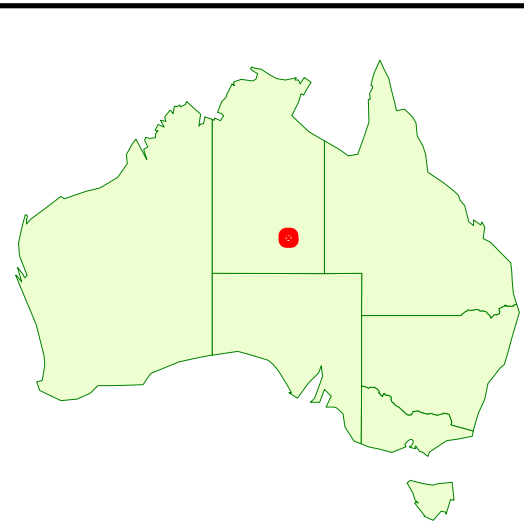
- Artunga Gneiss Complex**
- Pa Undifferentiated granitic gneiss, tonalitic gneiss, amphibolite and minor metasediments
 - um Ultramafic

- Cadney Metamorphics**
- Pc Undifferentiated amphibolite to granulite facies metasediments and minor gneisses, with characteristic metapelite, calc-silicate rocks

- The Garden Metamorphics**
- Pg Undifferentiated mafic and felsic granulite with minor metasediments and gneisses
 - um Ultramafic

- Undivided metamorphic rocks**
- EC Undivided metamorphic rocks
 - Ek Kanandra Metamorphics

- Geological Features**
- Lithological boundary
 - - - Unconformity boundary
 - - - Trend of layering
 - Fault related to Alice Springs Orogeny
 - - - Thrust and nappe structure related to Neoproterozoic Artunga Orogeny
 - ~~~~~ Ductile shear zone
 - Undifferentiated fault or thrust
 - ↕ Syncline fold related to Alice Springs Orogeny
 - ↕ Anticline fold related to Alice Springs Orogeny
 - ↕ Upright synform fold related to Artunga Orogeny
 - ↕ Overturned syncline fold related to Artunga Orogeny
 - ↕ Upright antiform fold related to Artunga Orogeny
 - ↕ Overturned anticline fold related to Artunga Orogeny
 - ↕ Age differentiated overturned synform fold
 - ↕ Age differentiated overturned antiform fold
 - ↕ Strike and dip of bedding or layering
 - ↕ Lineation



TANAMI GOLD NL

MT RUBY

INTERPRETED GEOLOGY

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

ORIGINATOR: C. Rohde DATE: July 2005 DRAWN: A. Weston
PLAN No: 47012_Gi_002

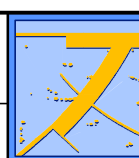
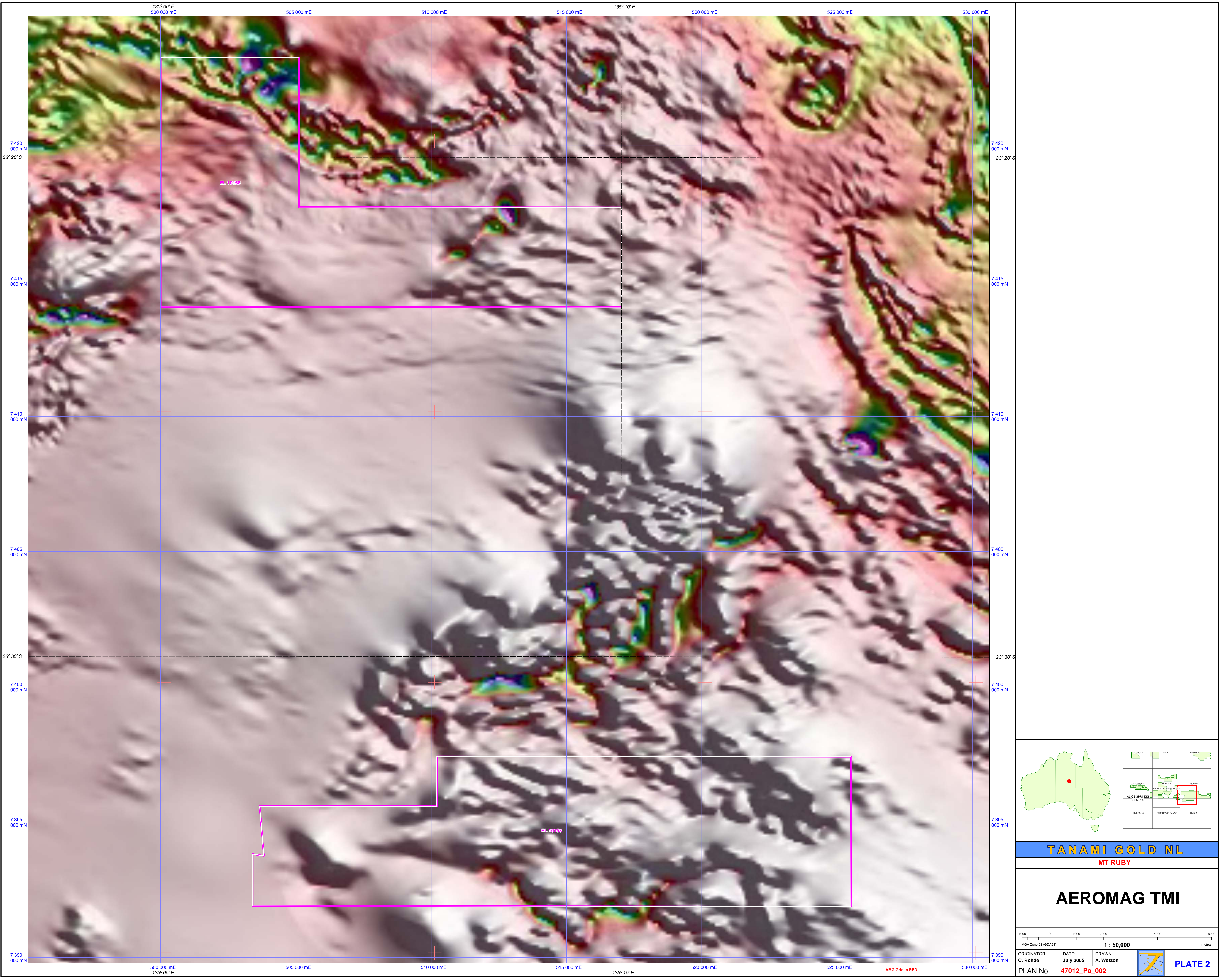
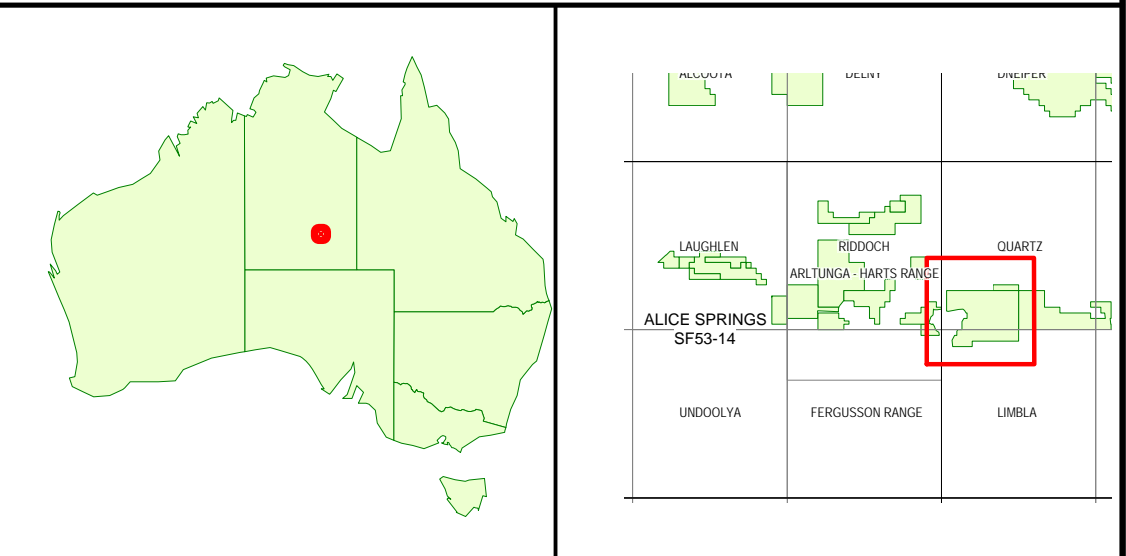
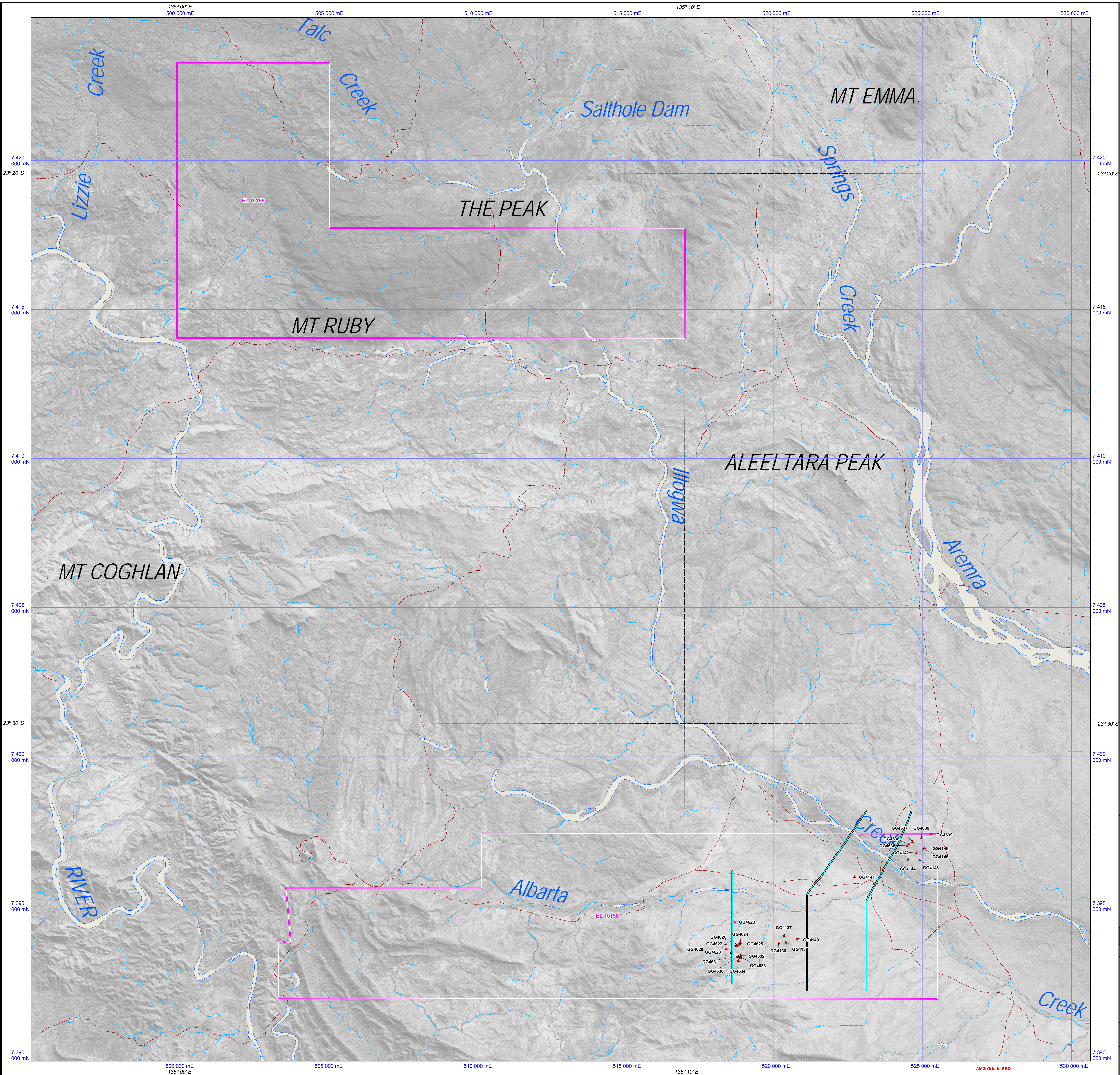


PLATE 1





TANAMI GOLD NL
MT RUBY

**ROCK CHIP and
GROUND MAG LOCATION**

1000 0 1000 2000 4000 6000
MGA Zone 53 (GD484)
1 : 50,000
metres
ORIGINATOR: C. Rohde DATE: July 2005 DRAWN: A. Weston
PLAN No: 47012_Cm_002

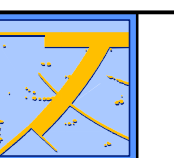


PLATE 3