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EL 2373 / 2979 / 3854 / 5107

PERNATTY LAGOON

**FOURTH PARTIAL SURRENDER REPORT,
FOR THE PERIOD 27/6/1997 TO 22/7/2016**

Submitted by
Red Metal Limited
2016

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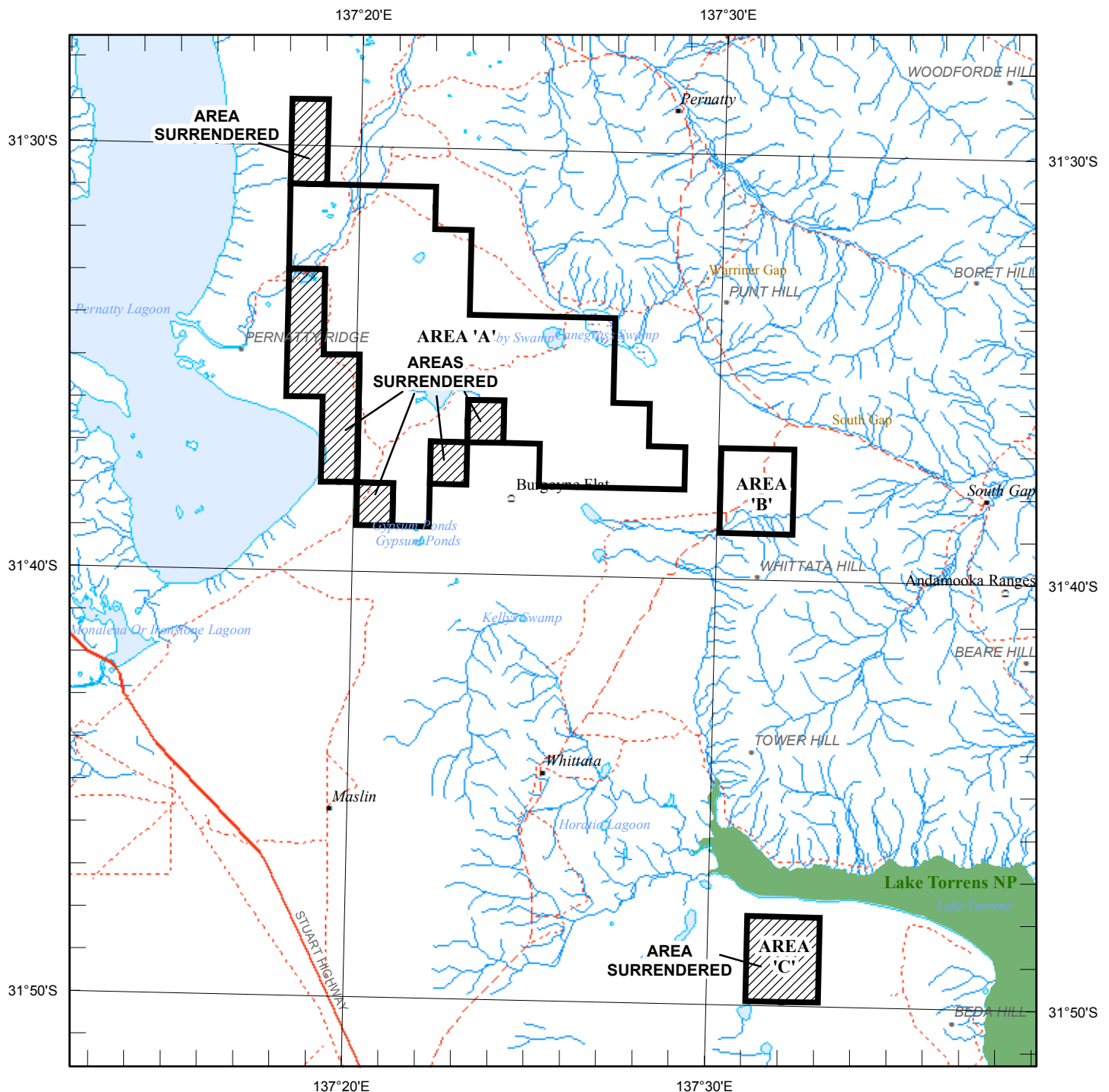
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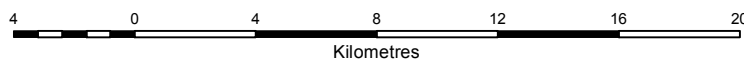


Government of South Australia
Department of State Development

SCHEDULE A



SCALE 1 : 250 000



LICENCE BOUNDARIES IN : DATUM AGD66

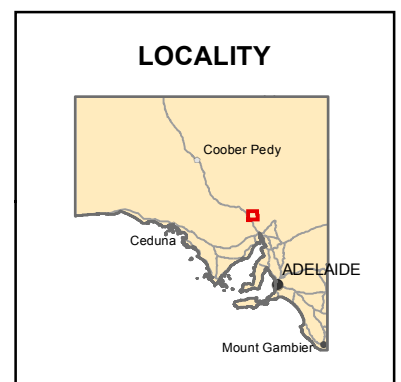
APPLICANT : **RED METAL LIMITED, HAVILAH RESOURCES LIMITED**

FILE REF : **2012/00104** TYPE : **MINERAL ONLY**

AREA : **135** sq km (approx)

1 : 250 000 MAPSHEETS : **TORRENS**

LOCALITY : **PERNATTY LAGOON AREA -**
Approximately 70 km southwest of Woomera



DATE GRANTED: **23-Jul-2012** DATE EXPIRED: **22-Jul-2016** EL NO: **5107**

EL 5107

Pernatty

Partial Surrender Report

for period ended

22 July 2016

1:250,000 sheet SH53-16 Torrens
1:100,000 sheets 6334, 6434

Tenement Holder:	Havilah Resources NL / Red Metal Limited
Operator:	Red Metal Limited
Date:	6/8/2016
Author:	G. Kary (Red Metal Limited)

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REPORT DIGITAL FILE LIST

EL5107_2016_01 Partial Surrender Report .pdf

EL5107_2016_02 Surrendered gravity data.txt

KEYWORDS

Drilling, Iron oxide, copper, Gawler Craton, Gawler Range Volcanics, Mesoproterozoic.

1 SUMMARY

EL 5107 covers magnetic and gravity anomalies within the eastern Gawler Craton. The target model is a high-grade Fe-Ox style Cu-Au deposit in Proterozoic basement rocks.

The surrendered portion of the tenement contains gravity data from a survey in 2002.

2 INTRODUCTION

EL 5107 is located 75km southeast of Woomera, between Lake Torrens and Pernatty Lagoon (see Figure 1). Access is via the Stuart Highway and a network of unsealed roads.

The tenement area is currently subject to a Native Title claim by the Kokatha Uwankara (SC09/001). Heritage inspections were conducted to clear the Red Metal work areas.

3 LICENCE DETAILS

EL 5107 was granted to Havilah Resources NL and Red Metal Limited on 23/7/2012 over 316 sq. km replacing EL 3854 which replaced EL 2979 which in turn replaced EL 2373. The EL area has been progressively reduced.

A joint venture agreement between Red Metal Limited and the tenement owner Havilah Resources NL was executed on 15 October 2004 and Red Metal has earned 85% interest. Red Metal Limited is the operator for the joint venture.

Table 1: Tenement Summary

Name	EL	Grant Date	Original Area (km ²)	Area Surrendered (km ²)
Pernatty	5107	23/7/2012	179	45

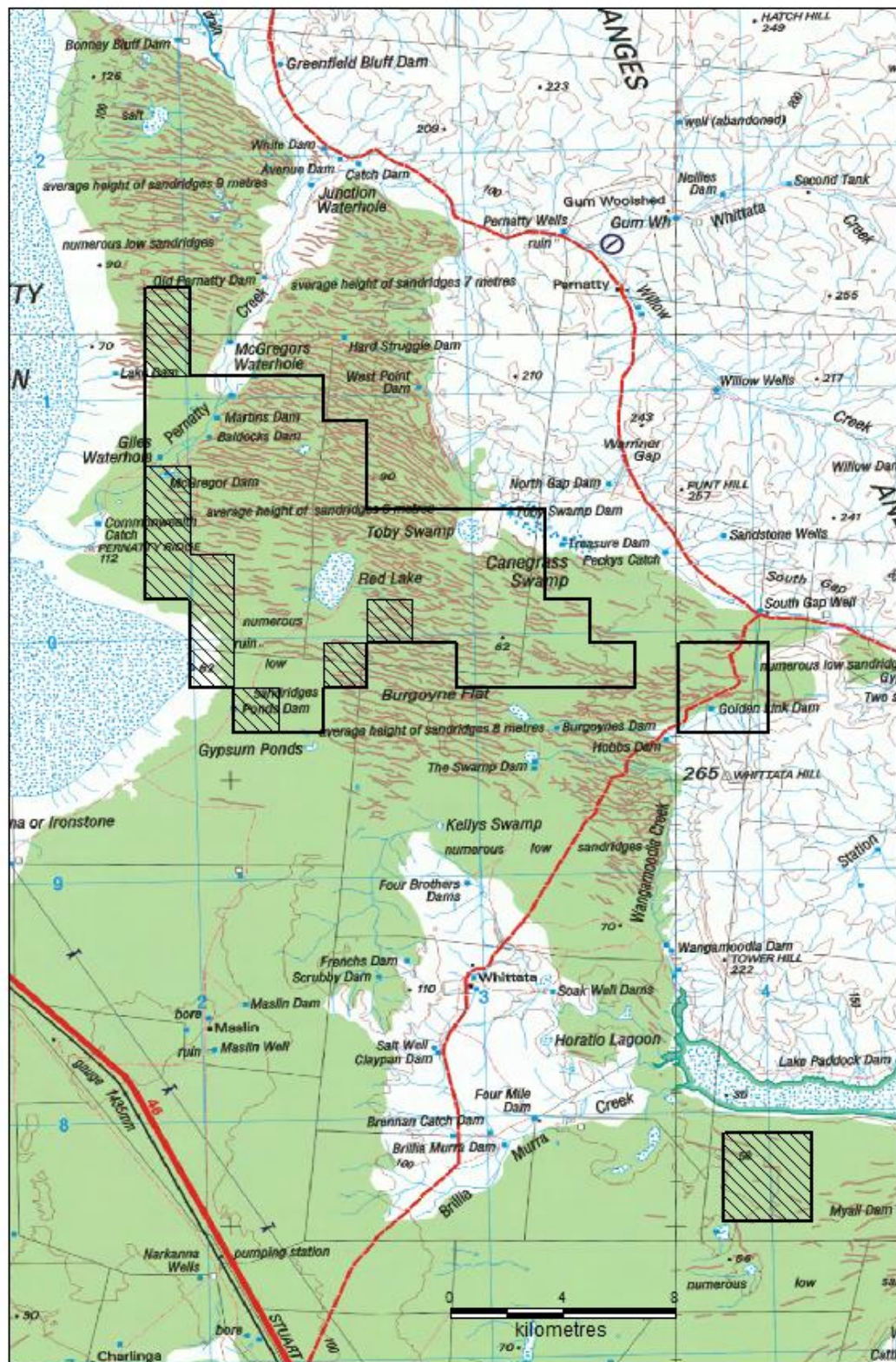


Figure 1: EL 5107 location map showing surrendered portion (hatched)
Torrens Sheet (SH53-16)

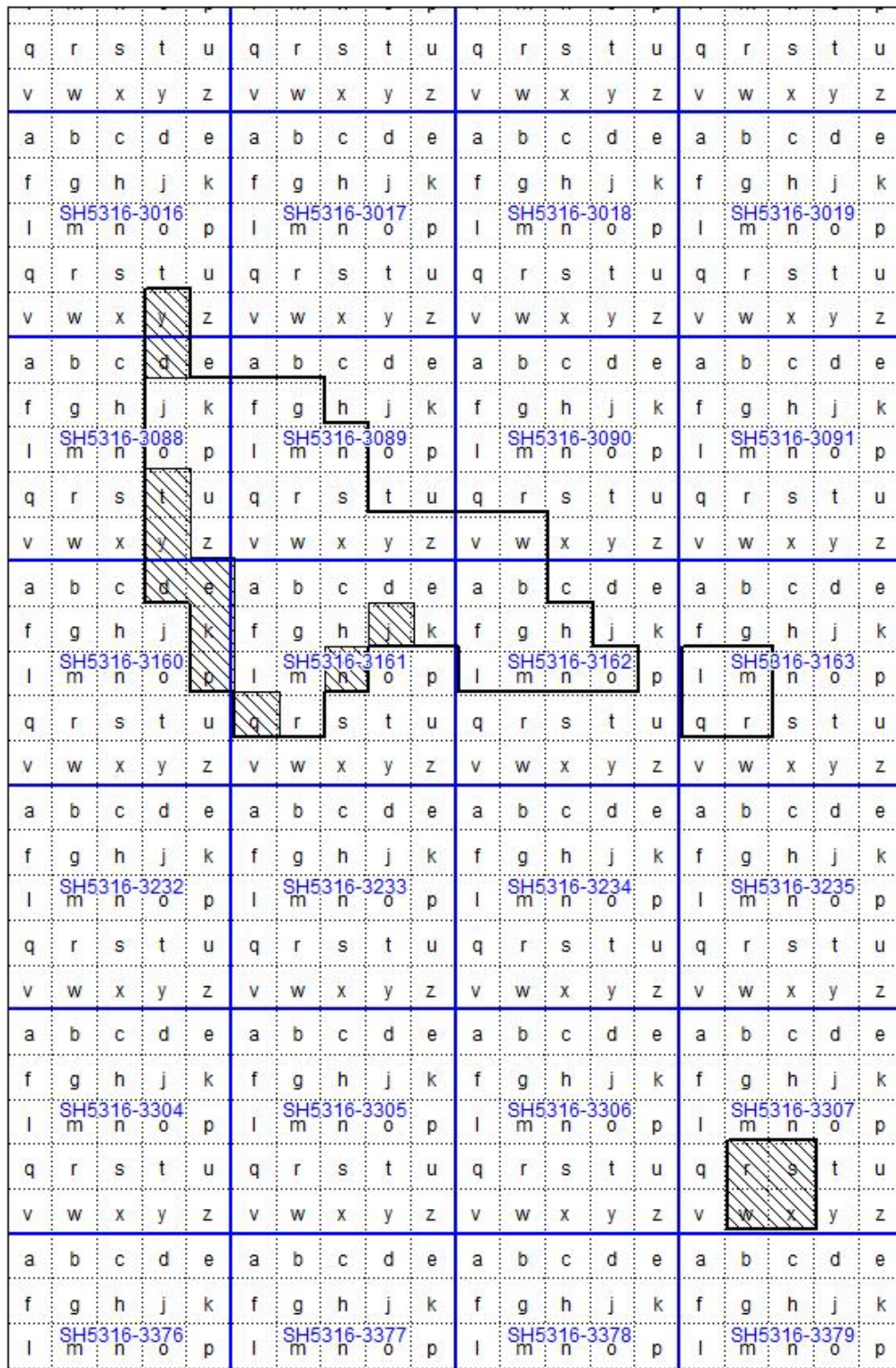


Figure 2: EL 5107 block map showing surrendered portion (hatched)

4 REGIONAL GEOLOGY AND GEOPHYSICS

EL 5107 covers magnetic and gravity anomalies within the eastern Gawler Province. The target model is a high-grade Fe-Ox style Cu-Au in Proterozoic basement rocks.

The area lies on the Stuart Shelf, a geological province characterised by essentially flat lying Neoproterozoic sediments overlying a variable basement of Gawler Craton rocks. Only the younger members of the Neoproterozoic sequence, namely the Simmens Quartzite Member and the Corraberra Sandstone Member of the Tent Hill Formation, crop out in the area. Information concerning older rock units and the Gawler Craton basement rocks is only known from deep drillholes, of which there are more than twenty within the area.

Compilation of the drillhole data shows that older Neoproterozoic rock units of the Tregolana Shale, Tapley Hill Formation and Beda Volcanics are widely distributed in the subsurface. The latter form a flood basalt sequence that gradually thickens eastward across the area towards the Torrens Hinge Zone, which is likely to represent the original rifted source area (Cowley, 1991a).

The Neoproterozoic sediments and volcanic rocks rest disconformably on conglomerates and sandstones of the Mesoproterozoic Pandurra Formation, which sit disconformably above mixed volcanic, volcanoclastic and clastic sequences of the Mesoproterozoic Gawler Range Volcanics (GRV). The GRV rocks are flat lying and make an angular unconformity with the underlying, laminated bedded, metasediments which are folded and show varying degrees of albite-calc-silicate-carbonate replacement and veining. These metasediments are interpreted as equivalents to the Paleoproterozoic Wallaroo Group.

5 PREVIOUS EXPLORATION

Early drilling in the region was carried out by Stuart Bluff Minerals in 1969-70 and later by Otter Exploration NL. In both cases the exploration model was Mount Gunson style copper mineralisation along the Pandurra surface between the Pandurra Formation and the unconformably overlying Whyalla Sandstone.

Following discovery of the Olympic Dam deposit in 1975, a joint venture between Seltrust, Geopeko and Carpentaria Exploration Company Limited carried out widespread exploration over a large part of the Stuart Shelf including roughly the western two-thirds of the tenement area. They completed at least sixteen percussion holes and six diamond drillholes (SAR 1, 5, 6, 7, 8, 9), the latter continuing on as tails from the percussion pre-collars. The deepest diamond drillholes within the area were SAR 8 (1338m) and SAR 9 (1246m). Both drillholes passed through a thick sequence of Gawler Range Volcanics (635 metres in SAR 8) and bottomed in a mixed sequence of weakly mineralised calc-silicate rocks, breccia and hematitic siltstone.

At the same time, Western Mining Corporation Limited, who held similarly large tenements on the Stuart Shelf, explored roughly the eastern third of the tenement area. They completed one drillhole, WHD 1, which intersected metasediments and volcanics beneath Pandurra Formation from 632 metres until the end of the hole at 683.5 metres. Notably in this hole

there is a comparatively thick (143 metre) sequence of Beda Volcanics lying between the Tapley Hill Formation and the Pandurra Formation.

6 CURRENT EXPLORATION

Since grant of EL 5107 (and preceding licences), no drilling was conducted in the surrendered portion. A gravity survey covering the surrendered portion was conducted in 2002 by Havilah Resources NL (Figure 3). Stations total 87.

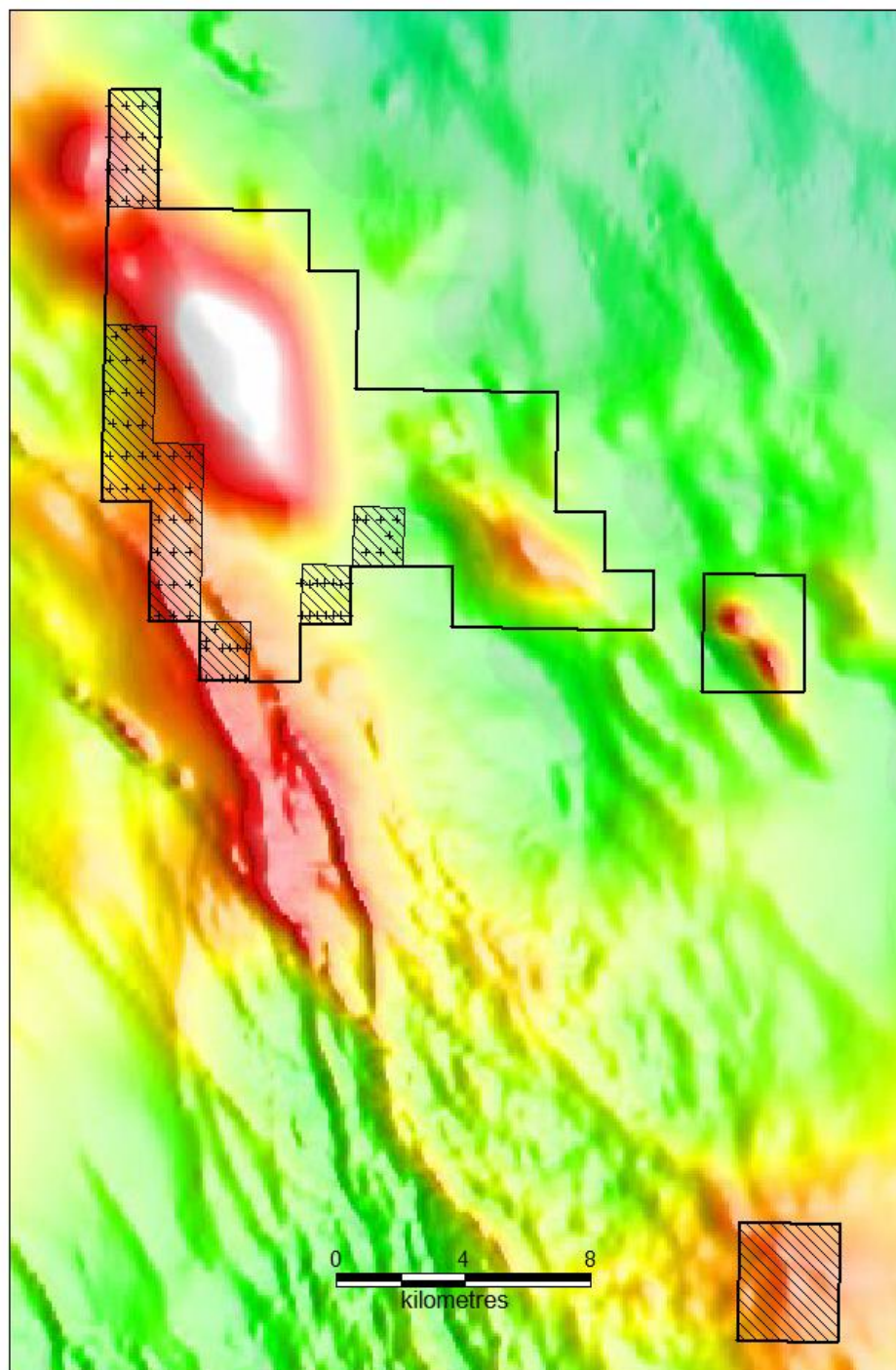


Figure 3: EL 5107 surrendered gravity stations on TMI image

7 CONCLUSIONS AND RECOMMENDATIONS

It was interpreted from geophysical data that the surrendered portion of the tenement contains lower exploration potential.

8 REFERENCES

Unpublished Company Reports held in Open File at PIRSA:

1969-1970 SML 315 Stuart Bluff Minerals PIRSA Env 1230

1974-1975 EL 154 Otter Exploration NL

1976-1978 EL 226 Australian Selection JV PIRSA Env 2703

1978-1983 EL's 389,676,1046 Australian Selection JV PIRSA Env 3245

1983-1986 EL 1205 Carpentaria Exploration Company Pty Ltd PIRSA Env 3693

1975-1986 EL 1316 Western Mining Corporation Pty Ltd PIRSA Env 6562