OM Manganese Ltd

Title holder (s): OM (Manganese) Ltd (50%) Neil Henry Scriven (50%)

Operator: OM (Manganese) Ltd

Tenement Manager: Bichard Exploration Administration Services Pty Ltd

EL26552
Renner Springs Project

Partial Surrender report for EL26552 for the period 2nd September 2008 to 1st September 2011

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Target Commodity: Manganese

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Datum/zone: GDA94 MGAz53

250k mapsheet: Helen Springs SE 53-10
100k mapsheet: Helen 5661

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Abstract

A regional aeromagnetic and radiometric survey was flown in September/October 2008 and the raw data acquired during that survey was reprocessed in 2009. No other activity was conducted on this second relinquished portion of EL26552, the subject of this report.

Contents

Electronic file list

File Name	File type	Content
EL26552_2011_partial surrender 02.pdf	pdf	This report
Appendix 1 – GPX Bootu Creek North (Mag & Rad)	gdf	Aeromagnetic and radiometric data

1 Introduction

1.1 Location and tenure

Exploration Licence (EL) 26552 was granted on September 2nd, 2008. The licence is held jointly by OM (Manganese) Ltd (50%) and Neil Henry Scriven (50%).

The original licence covered 240 blocks and is located between OMM's 'Renner Springs Project' comprised of EL28041 and EL28604 and its 'Helen Springs Project' comprised of EL23495 SEL28843 application, as shown in Figure 1.

At the end of Year 2 a parcel of 60 blocks (25% of original blocks) were surrendered from the northern portion of the original licence area. A further 90 blocks (50% of those remaining) were submitted for surrender at the end of Year 3 and are the subject of this report.

Access to the licence is by Stuart Highway and Helen Springs Station tracks.

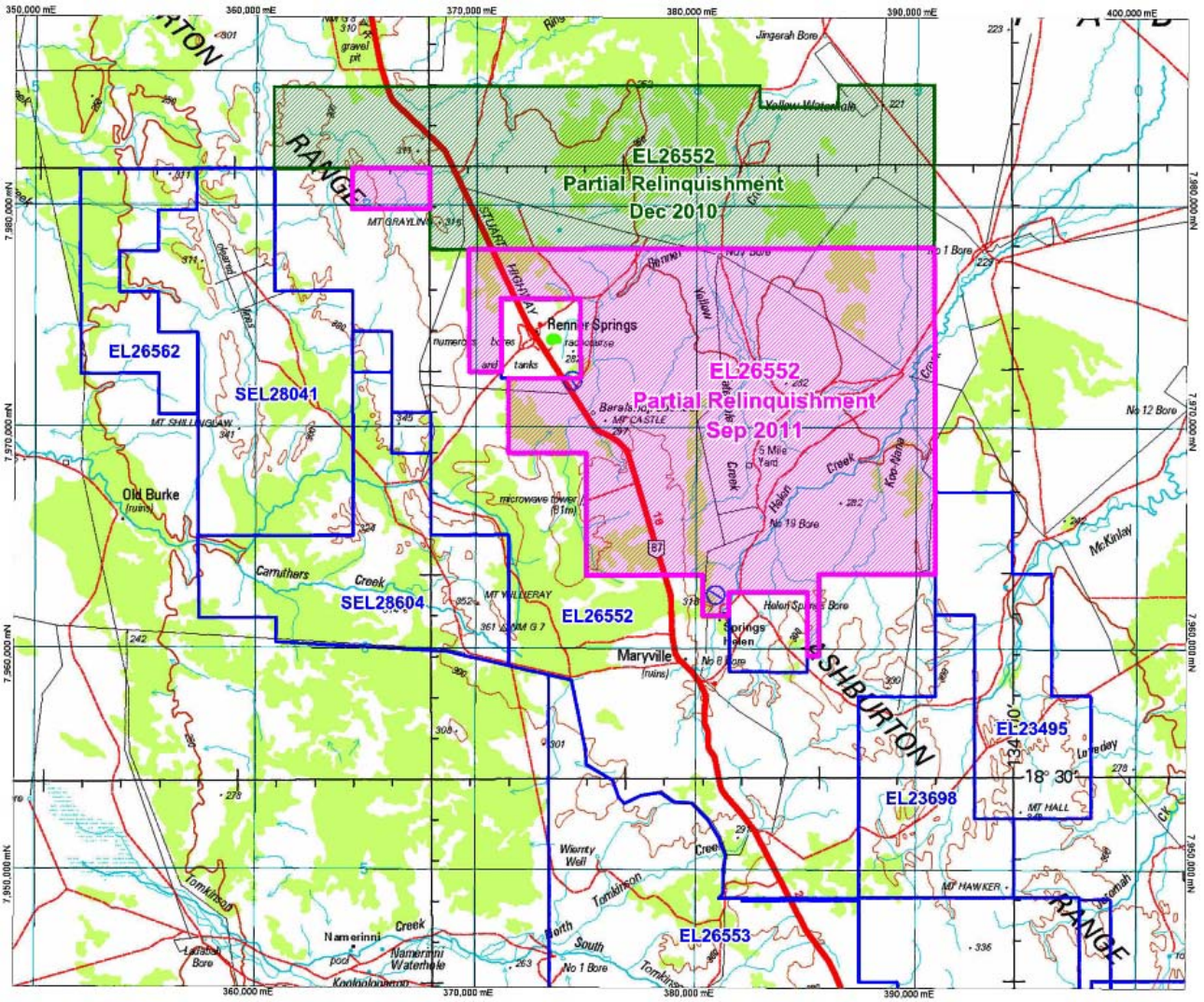

Figure 1. Plan of EL26552 showing area of the partial surrenders for Year 2 and Year 3, and retained blocks

2 Geology

The exploration licence dominantly hosts rocks of the Mesoproterozoic aged Renner Group with minor occurrences of Cambrian aged Helen Springs Volcanics (both the volcanic lithofacies and the Muckaty Sandstone Member) and Cretaceous sediments. The published geological map for the licence comprises Figure 2.

The prospective Proterozoic rocks within the surrendered portion are predominately covered by Cenozoic alluvium, colluvium and aeolian sand. There are no identified manganese outcrops on the surrendered portion of the exploration licence.

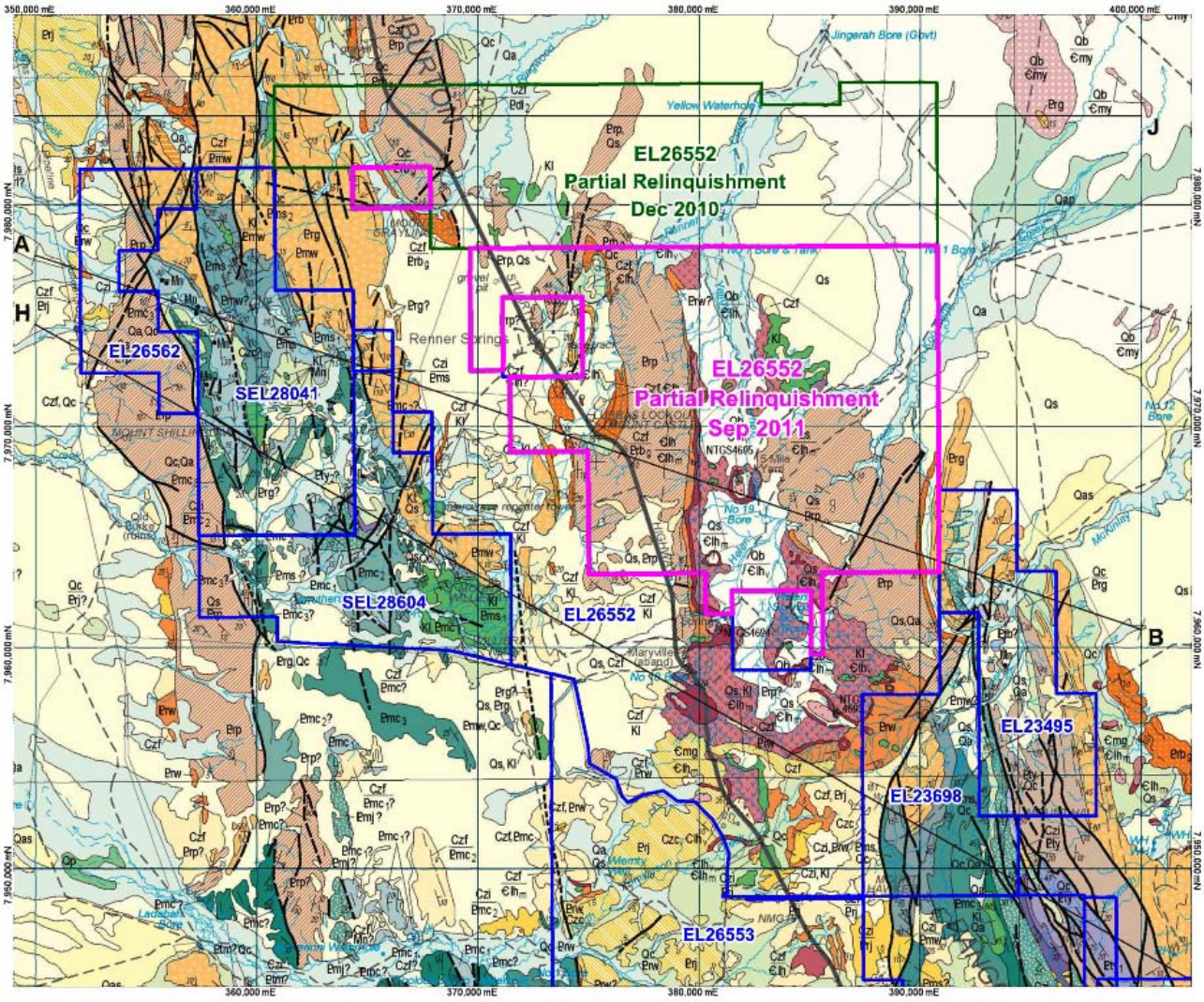

Figure 2. Geology map showing the location of known outcrop and the extent of recent cover over EL26552. Geology data is taken from the published Helen Springs 1:250,000 geology map sheet (*Hussey et al, 2001*)

3 2008-2011 Exploration Activity

Exploration activities conducted on the portion surrendered at the end of Year 3 include;

- an aerial geophysical survey
- reprocessing of the new aeromagnetic data.

3.1 Aerial Geophysical survey

GPX Geophysical Exploration Services were contracted to acquire both radiometric and aeromagnetic data across all of OMM's tenement holdings. The total survey parameters are shown in Table 1.

The total survey area was divided into two sections covering OMM's grouped tenement holdings. EL26552 falls in the northern survey area and comprised 19.4% (approximately 2,025 line km) of the *total* survey area.

All data captured during this survey was submitted as part of the EL23459 2008/2009 annual report.

Type of Data	Aeromagnetics and Radiometrics
Survey datum	GDA94, MGA Zone 53
Survey line spacing	150 metres
Survey line direction	090-270 degrees
Tie line spacing	1,500 metres
Tie line direction	0-180 degrees
Mean terrain clearance	53 metres
Survey distance	10,605 km
Survey Date	October 2008
Survey by	GPX Geophysical Exploration Services
Job No.	2356
Survey commissioned by	OM (Manganese) Limited

Table 1. OMM 2008 Geophysical survey parameters

3.1.1 Radiometric data

GPX Surveys supplied the final dataset as a located data file (.dat) as well as several ER mapper grids (.ers) and located image files (.tif) for K, U, Th, total count and ternary image. The ternary image comprising Figure 3 displays four dominant feature sets/colour zones, vis: the bight pink, the light blue/cyan, the red/yellow, and the dark zones. The areas can generally be attributable to the Namerinni Group, the Renner Group, the Helen Springs volcanics and associated clays/sediments, and aeolian sand cover respectively.

The ternary radiometric image is included as Figure 3.

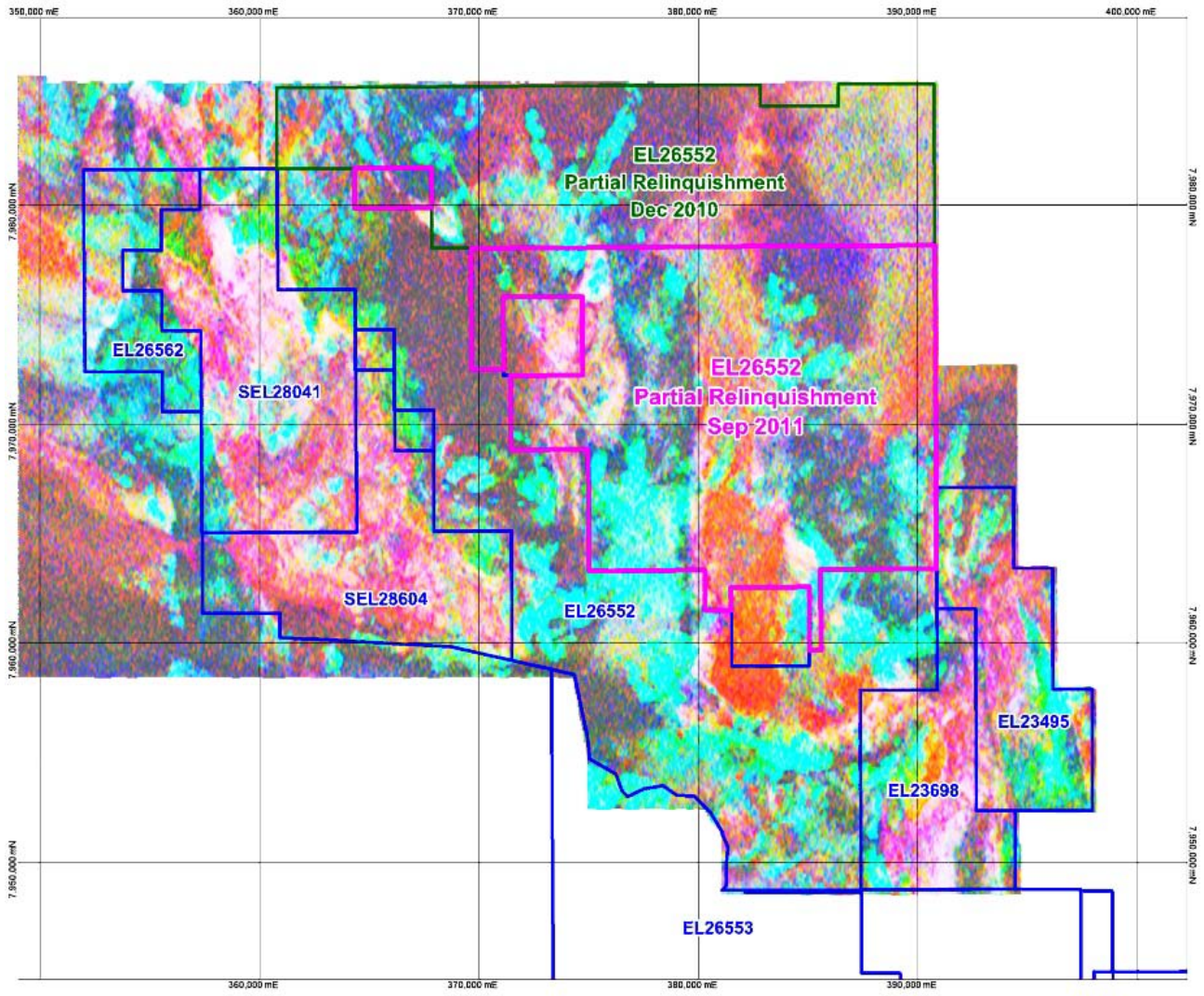

Figure 3. Ternary image compiled from the K, U, and Th radiometric data acquired in 2008

3.1.2 Aeromagnetic data

The aeromagnetic data was supplied as a located data file (.dat) as well as several ER mapper grids (.ers) and located image (.tif) files for TMI, TMI1VD, TMI2VD, TMIRTP, and RTP1VD.

The dominant feature in all of the variations of the gridded magnetic data is shallow anomaly created by the Helen Springs volcanics. While large areas of this and other adjacent licences are under recent aeolian cover, drill testing of this magnetic signature on EL25593 and also on EL22428, both near Bootu Creek, has shown the rock to be a volcanic rock of fine to medium grainsize and of peraluminous intermediate composition (andesite?). Given the strong signature associated with the volcanics, and the effect of what may be interpreted to be deeper level magnetic highs (Figure 4), the anomalies created by the various sedimentary units is generally 'flooded' and so a first or even second vertical derivative (Figure 5) is most useful in defining the extents of those units.

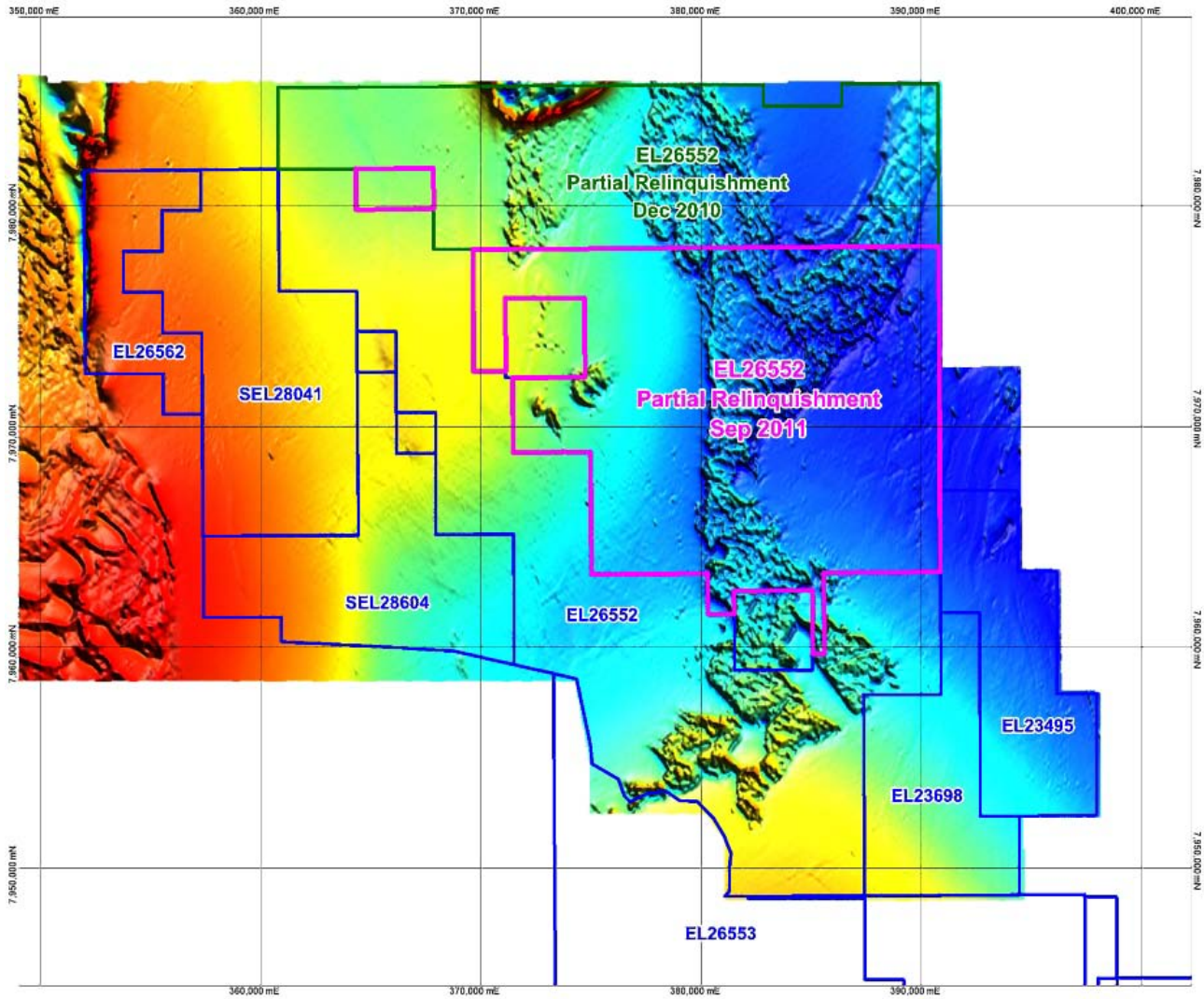

Figure 4. TMI magnetic image over EL26552. Note the diffuse 'high' possibly associated with deep seated magnetic features.

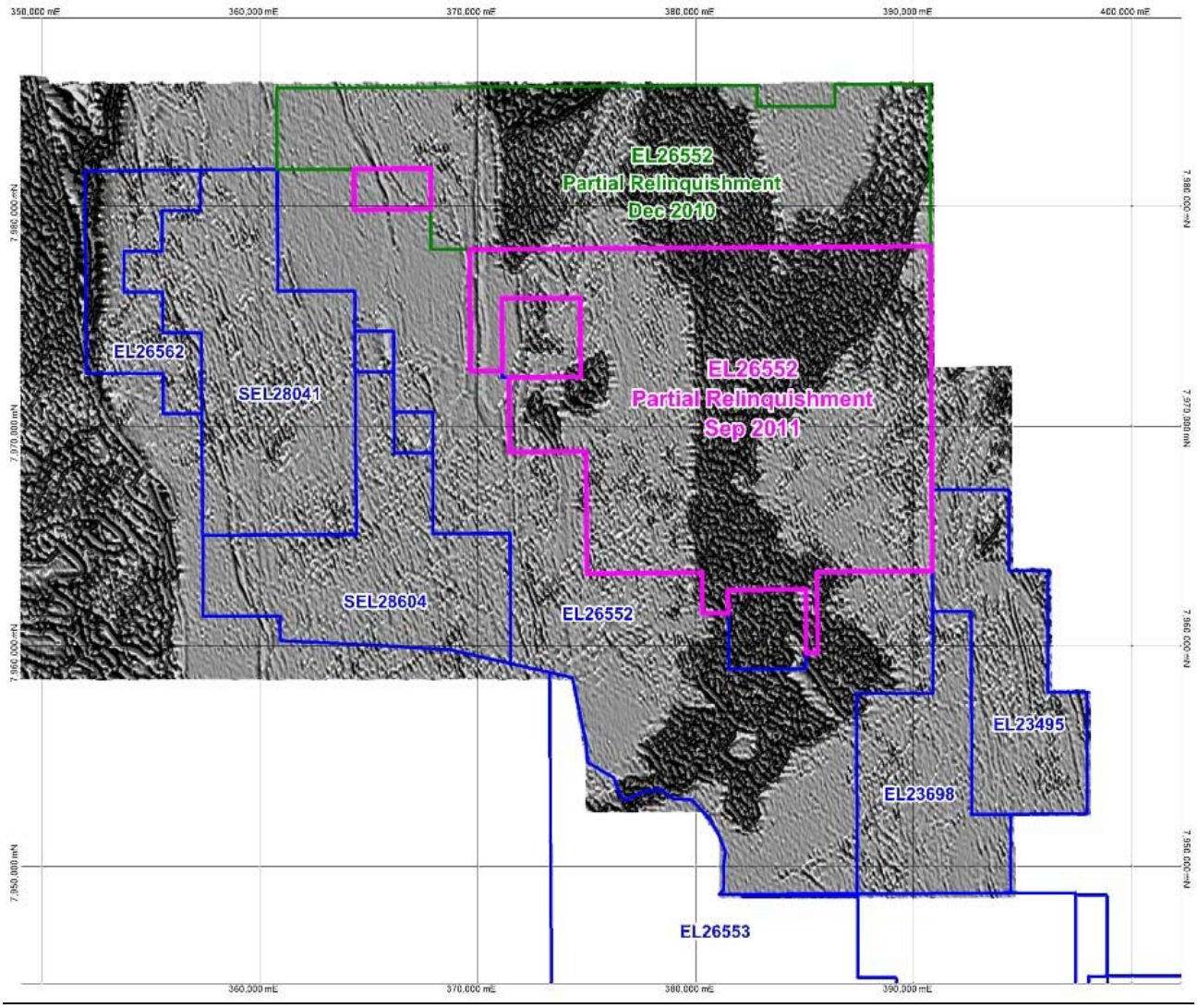

Figure 5. TMI2VD magnetic image over EL26552

The vertical derivative grids also enhance other linear features that are either subtle or absent in the TMI and RTPTMI.

3.2 Reprocessing of geophysical data.

The data collected during the reporting period was sent to Vector Research for reprocessing using the TargetMap algorithms. The reprocessing produced several interesting datasets and plots.

4 References

Hussey, K.J., Beier, P.R., Crispe, A.J., Donnellan, N., and Kruse, P.D., (2001) Helen Springs, Northern Territory. 1:250,000 geological map series and explanatory notes, SE53-10 (Second Edition) *Northern Territory Geological Survey*