



## OM Manganese Ltd

**Title holder (s):** OM (Manganese) Ltd (50%) Neil Henry Scriven (50%)  
**Operator:** OM (Manganese) Ltd  
**Tenement Manager:** Australian Mining and Exploration Titles Services Pty Ltd (AMETS)

# EL26562 Renner Springs Project

## Partial Surrender report for the period 2<sup>nd</sup> September 2008 to 1<sup>st</sup> September 2012

**Author:** Reddell, C.T. (Geology Manager, OMM)  
Bailey, M.H. (Database/GIS Manager, OMM)

**Target Commodity:** Manganese

**Date of report:** 30/10/2012

**Datum/zone:** GDA94 MGAz53

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

**Contact Details:** OM (Manganese) Ltd (Head Office)  
Level 1, 46 Parliament Place, West Perth, WA, 6005  
P.O. Box 279, West Perth, WA, 6872  
Ph 08 6311 1500  
Fx 08 9841 0966

Bootu Creek Mine Site  
PMB 40, Tennant Creek, NT 0861  
Ph 08 8962 0207  
Fx 08 8962 0299

**Author contact:** [craig.reddell@ommanganese.com.au](mailto:craig.reddell@ommanganese.com.au)  
[miles.bailey@ommanganese.com.au](mailto:miles.bailey@ommanganese.com.au)

## **Abstract**

A regional aeromagnetic and radiometric survey was flown in September/October 2008 and the raw data acquired during that survey was late reprocessed. Interpretation of the geophysical data indicates the western half of the licence area probably host rocks belonging to the Helen Springs Volcanics, however that area is entirely covered by recent alluvium. A program of detailed aerial photography was conducted over the eastern half of the original licence area which is dominated by outcropping units belonging to the Renner Group.

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## Electronic file list

File Name	File type	Content
EL26562_2012_P3.pdf	pdf	This report
Appendix 1 – GPX Bootu Creek North (Mag & Rad)	gdf	Aeromagnetic and radiometric data
Appendix 2 – Renner Springs Orthophoto 2009	ecw	MapInfo compatible image file

# 1 Introduction

## 1.1 Location and tenure

Exploration Licence EL26562 was granted on September 2<sup>nd</sup>, 2008. The licence is held jointly by OM (Manganese) Ltd (50%) and Neil Henry Scriven (50%). The original licence covered 73 blocks and comprises the western most licence of OMM's 'Renner Springs Project'.

At the end of Year 2 a parcel 49 blocks (67% of original) was surrendered from the western side of EL26562, followed by another parcel of 12 blocks (50% of remainder) surrendered at the end of Year 3. This third parcel of 6 blocks (50% of current holding) was surrendered from the western side of the remaining licence area at the end of Year 4. The retained portion is 6 blocks

Access to the licence is by station tracks and the Amadeus Gas Pipeline tracks.

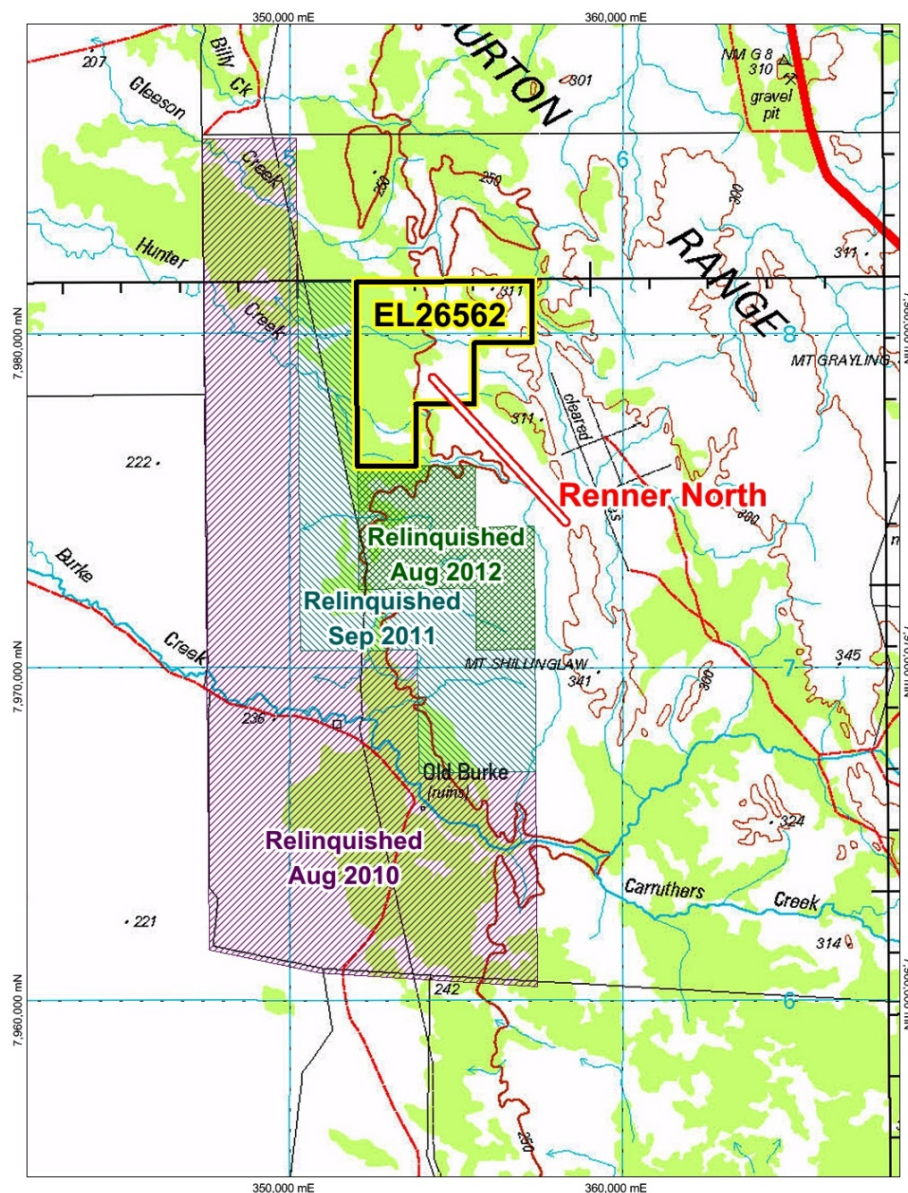


Figure 1. Plan showing area of partial surrenders and retained blocks for EL26562



## 2 Geology

The exploration licence hosts outcropping rocks of the Powell Formation, which is dominantly a sandstone unit belonging to the Mesoproterozoic aged Renner Group. As shown in Figure 2, the western half of the licence is covered by recent fluvial sediments with minor outcrop of mapped sandstone.

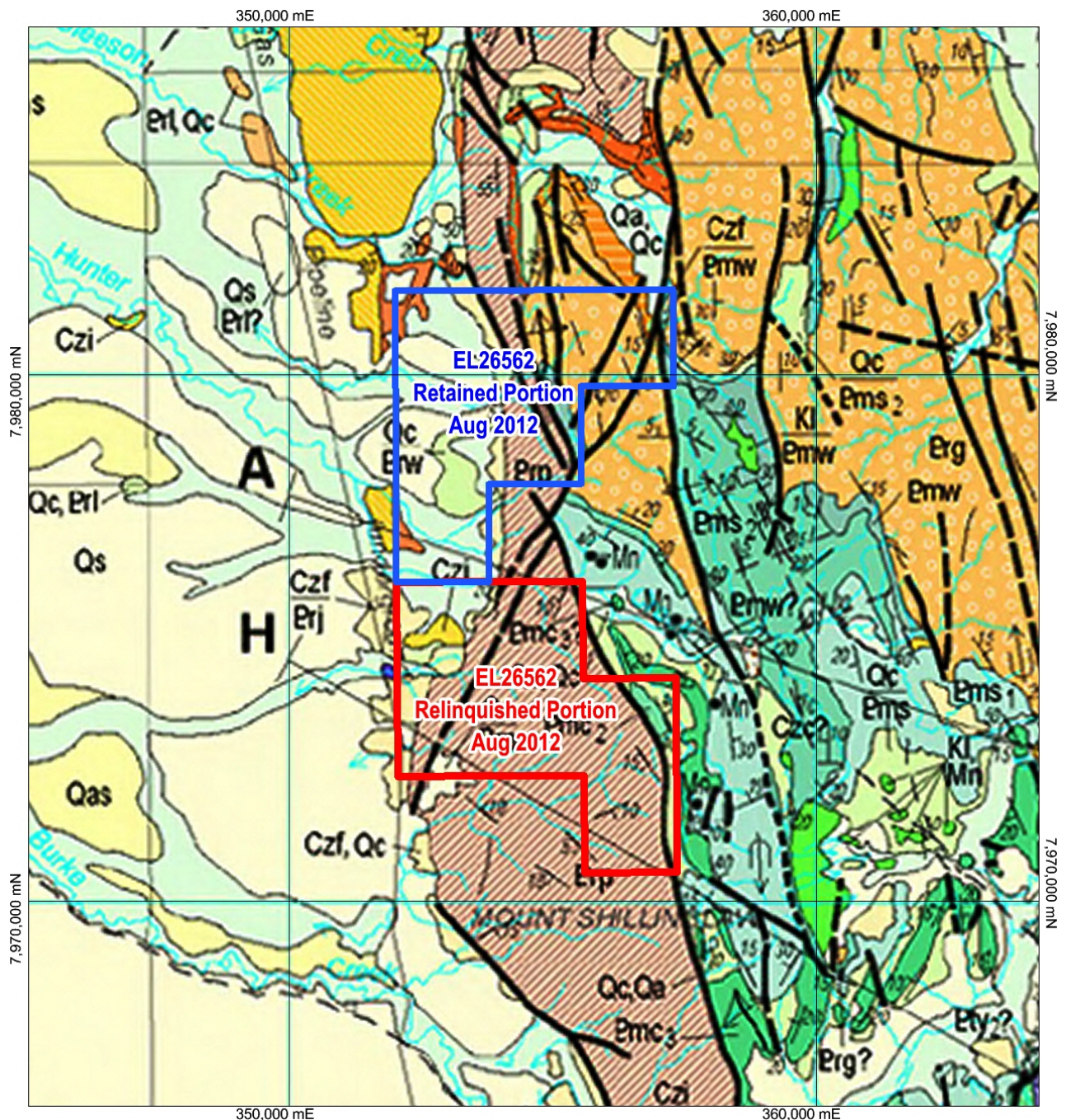


Figure 2. Geological map showing the location of known outcrop and the extent of recent cover in EL26562. Geological data is taken from the published Helen Springs 1:250,000 geology mapsheet (*Hussey et al, 2001*)

### 3 2008-2012 Exploration Activity

Exploration activities conducted on the portion surrendered at the end of Year 4 include;

- an aerial geophysical survey
- reprocessing of the new aeromagnetic data.
- a program of detailed aerial photography

#### 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 the grouped tenement holdings. EL26562 falls in the northern survey area and comprises 11.6% (1226 line km) of the *total* survey area.

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

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

Elevated potassium signatures are associated with the traces of both Hunter and Burke Creeks while minor occurrences of Jangirulu Formation are coincident with elevated uranium and Thorium signatures. There is also a large area of elevated U and Th immediately west of the central exposure of the Jangirulu Formation however the DTM shows the ground to be quite flat in that area and it is unlikely that the response is due to a colluvial fan.

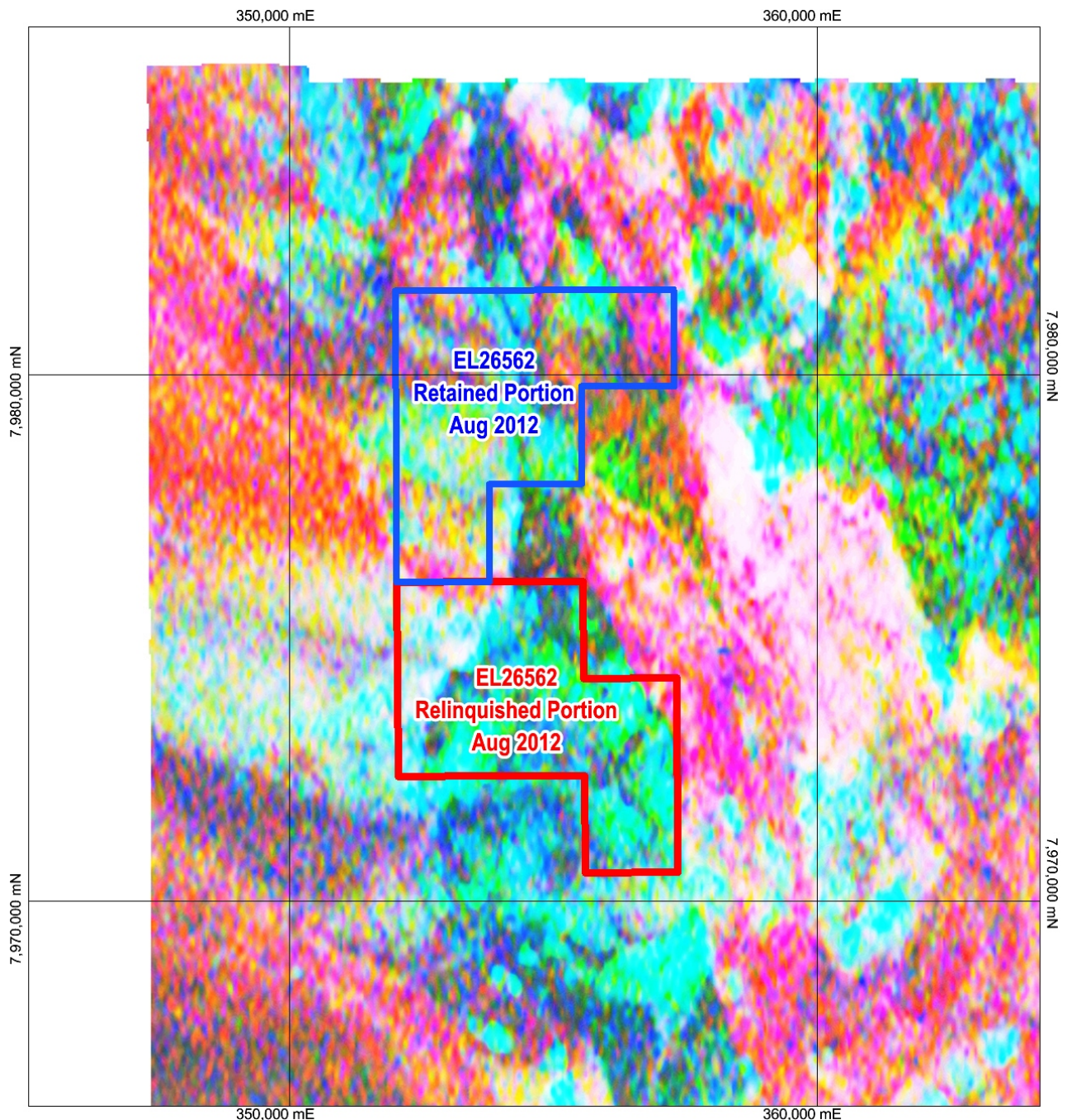


Figure 3. Ternary image compiled from the K, U, and Th radiometric data acquired in 2008



### 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 observed in the datasets is the 'noisy' magnetic high which occurs in the western part of the licence as shown in Figure 4. This signature is the same as that observed in data collected over EL25593 (expired) near the Bootu Creek mine. That feature was drill tested and shown to be volcanic rock of intermediate composition (andesite?) thought to represent the volcanic lithofacies of the Helen Springs Volcanics.

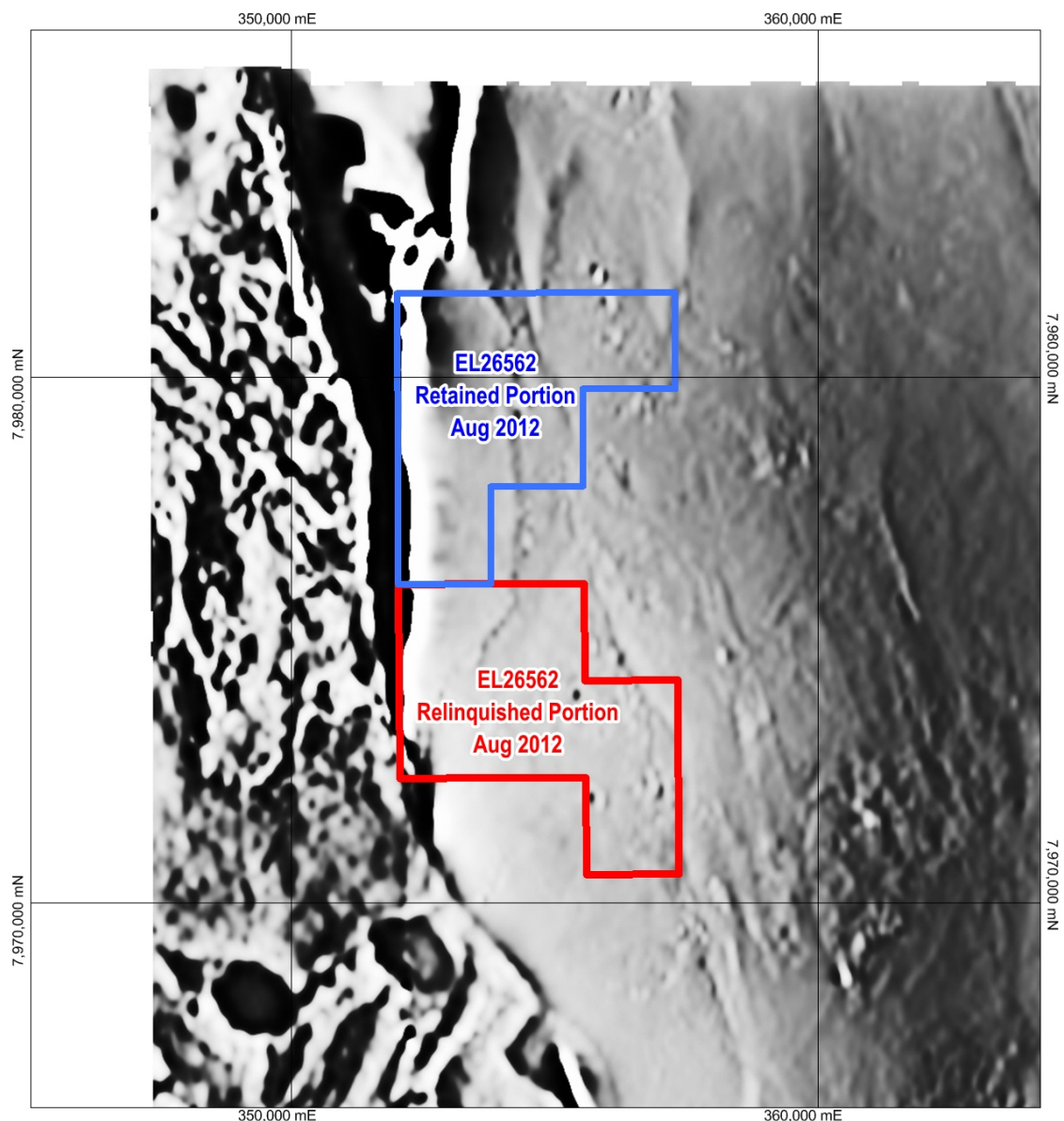


Figure 4. 1VDRTP magnetic image over EL26562. The 'noisy' data dominating the western half of the licence represent the extent of buried Helen Springs Volcanics.

The sandstone units within the licence are magnetically 'quiet' with only major boundaries between formations identifiable.

### *3.2 Reprocessing of geophysical data.*

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

### *3.3 Aerial photography.*

In April 2009 United Photo and Graphic services collected aerial photography over selected OMM tenement areas at a nominal scale of 1:20,000 (approximately 0.5m pixel size).

The data was passed on to Survey Graphics in Perth for processing. Alternative frames were orthorectified using 50 metre DEM and the frames were colour balanced and mosaicked seamlessly. Photography was only collected over the area where outcrop had been identified within the licence.

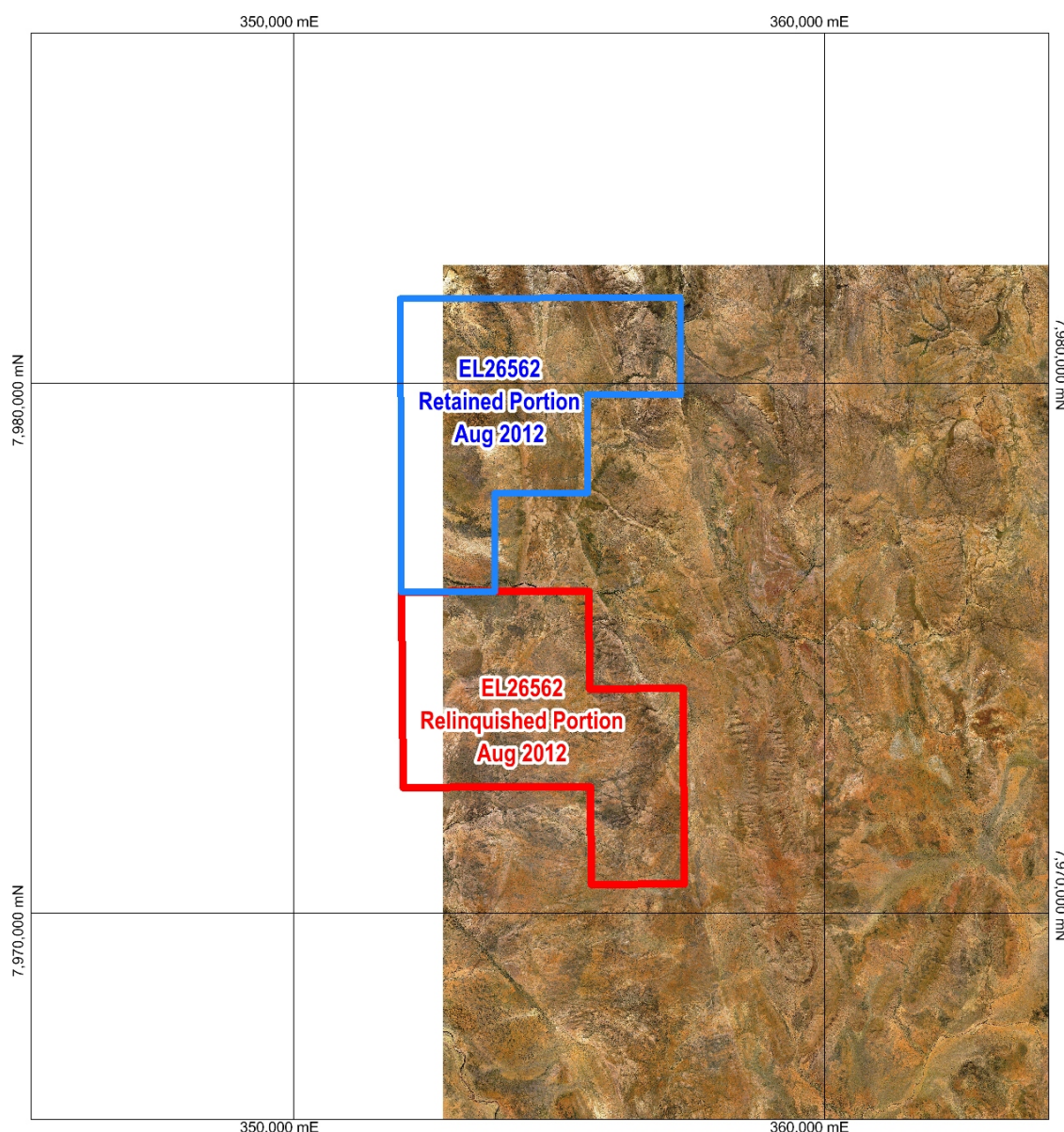


Figure 5. Aerial photography over EL26562

## 4 Conclusions and Recommendation

The exploration activity conducted to date, on the area proposed for partial surrender, has not presented any significant manganese exploration opportunities. The 6 blocks selected for partial surrendered consist mainly of Renner Subgroup rocks.

The main northwest projection of the Renner North manganese trend, highlighted by a recent GAIP survey on the adjacent EL28041, is retained within the remaining portion of EL26562.

No further exploration activity was proposed or recommended on the 6 blocks being surrendered.

## 5 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*