



## OM Manganese Ltd

**Title holder (s):** OM (Manganese) Ltd (100%)  
**Operator:** As above  
**Tenement Manager:** Bichard Exploration Administration Services Pty Ltd

### **EL9975, EL9998, EL23624 Renner Springs Project**

#### **Joint annual report for EL9975, EL9998 and EL23624 for period 3<sup>rd</sup> June 2008 to 2<sup>nd</sup> June 2009**

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## **Abstract**

Exploration Licence (EL) 9975, EL9998 and EL23624 combine with EL23459 to comprise OM (Manganese) Pty Ltd's Renner Springs Project Area. The licences host outcropping manganese mineralization which was drill tested during mid to late 2008 with a 39 hole, 2579 metre RC drilling program. While significant manganese mineralization was intersected in many holes, it is generally relatively thin and areally discontinuous, making it impossible to compile a mineralized Resource. Extensive aeromagnetic and radiometric surveys were flown in late 2009 and the data, which was reprocessed and filtered by a consultant geophysicist, will be combined with a detailed geological map being created at the time of writing to produce a robust exploration program for the future.

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## Electronic file list

<b>File Name</b>	<b>File type</b>	<b>Content</b>
EL9975_EL9998_EL23624_200906_01_report.pdf	pdf	This report
EL9975_EL9998_EL23624_200906_02_collars.txt	Tab del txt	Drill hole collars location data
EL9975_EL9998_EL23624_200906_03_assays.txt	Tab del txt	Sample assay results
EL9975_EL9998_EL23624_200906_04_geol_logs.txt	Tab del txt	Down hole geology logs
EL9975_EL9998_EL23624_200906_05_DHsurvey.txt	Tab del txt	Down hole survey data
EL9975_EL9998_EL23624_200906_06_logging_codes.pdf	pdf	OMM geology logging codes
EL9975_EL9998_EL23624_200906_07_figure 2.pdf	pdf	Drillhole collar location plan
EL9975_EL9998_EL23624_200906_08_figure 3.pdf	pdf	Cross section 7974790mN
EL9975_EL9998_EL23624_200906_09_airphoto.ecw	ecw	Image data file
EL9975_EL9998_EL23624_200906_09_airphoto.tab	Mapinfo tab	Mapinfo table file

# 1 Introduction

EL 9975 and EL 9998 were granted to Bootu Creek Resources in June 2002. EL23624 was granted in February 2003 and the tenements were granted project status for the purposes of joint reporting in 2005/2006

EL9975 and EL9998 were renewed for a further 2 years in May 2008. Application for renewal for a further 2 years was lodged in early December 2008.

The tenements were acquired by OM (Manganese) Pty Ltd in 2006 as part of the purchase of the Bootu Creek manganese mining project.

As shown in figure 1, the tenements are located 13 kilometres West of the Renner Springs road-house and are on the 1:250,000 Helen Springs geological map sheet.

Along with the contiguous exploration licence EL23459, the group comprises OM (Manganese) Pty Ltd's (OMM) Renner Springs Project Area. The project area is accessed via station tracks heading west from the Stuart Highway at 1/ the Renner Springs road-house, or 2/ north of the entrance to the Helen Springs cattle station.

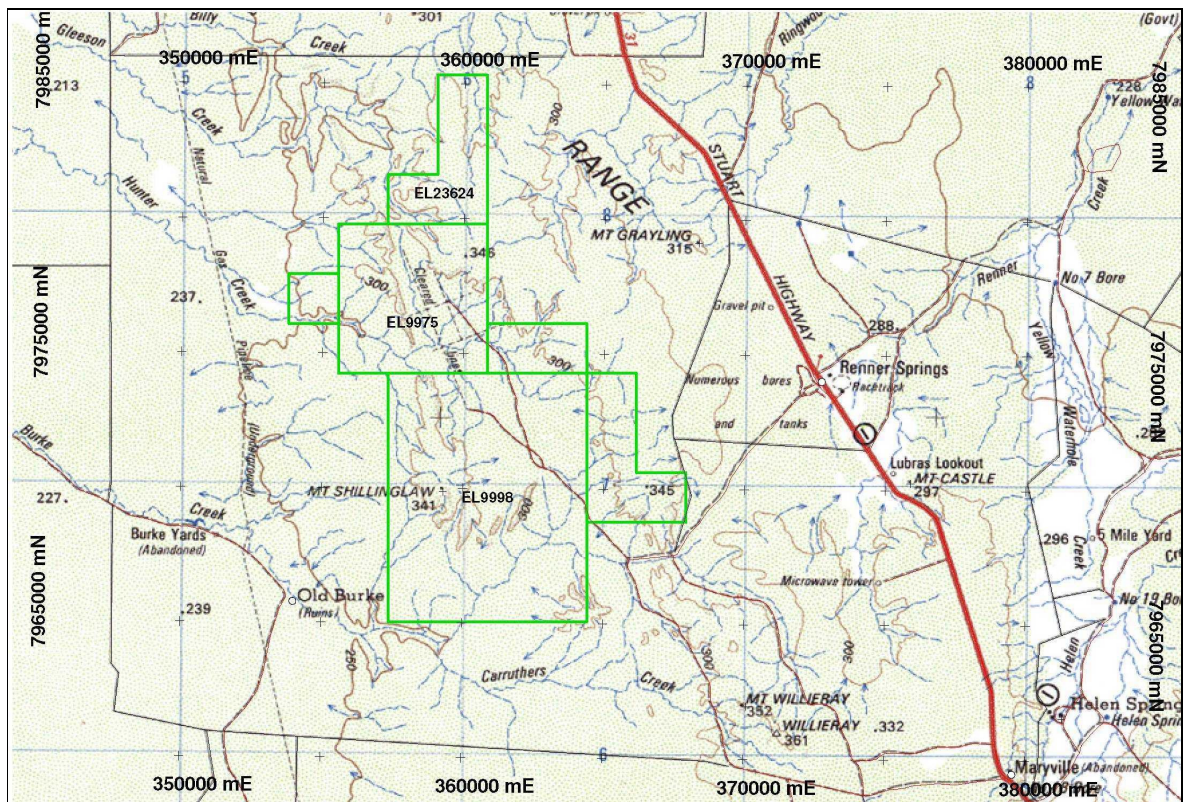


Figure 1 Plan showing the location of EL23459 in relation to Renner Springs road-house.

## **2 Previous Exploration Activity**

### ***2.1 Exploration Activity 2002/2003***

In October 2002, Bootu Creek Resource commenced an exploration program that included mapping of out crops in chosen areas with a follow up drilling program in EL9975. The program comprised 2188 metres of open hole percussion drilling in 107 drill holes in an area north of Hunter Creek.

### ***2.2 Exploration Activity 2003/2004***

No field exploration activities were undertaken within exploration licences during the year ending 2<sup>nd</sup> June 2004, as Bootu Creek Resources were focussing all of their resources on drilling out the Bootu Creek (mine) manganese deposits.

### ***2.3 Exploration Activity 2004/2005***

During the third year of tenure a twenty six hole drilling programme totalling 448m was completed within EL9998. The holes targeted known, flat-lying manganese occurrences which are thought to be of Cretaceous Period age.

### ***2.4 Exploration Activity 2005/2006***

No fieldwork was undertaken during year 4.

### ***2.5 Exploration Activity 2006/2007***

Exploration activity undertaken by OM Manganese for 2006/07 included a satellite-borne spectral study, geological field reconnaissance, a heritage clearance survey and preparation for the planned 1,200 metre RC drill program.

### ***2.6 Exploration Activity 2007/2008***

Exploration activity on EL9975, EL9998 and EL23624 for the 12 months to June 2008 included

- heritage clearance survey,
- acquisition of high resolution satellite imagery over the project area
- 875 line km helicopter borne SkyTEM geophysical survey (total survey 2,300 line km), and
- Access and site preparation for a planned 2,000 metre RC drill program originally outlined in the Renner Springs 2007 Mine Management Plan. and
- Commencement of that RC drill program.

### 3 2008-2009 Exploration Activity

Exploration activities conducted during the past year included:

- completion of an RC drilling program
- an aerial geophysical survey.
- Reprocessing of SkyTEM data collected in year 6 (EL9975 and EL9998).
- Acquisition of very high resolution aerial photography, and
- Commencement of a detailed field mapping project

#### 3.1 RC Drilling program

McKay Drilling was contracted to perform drilling within EL9975 and EL9998 in 2008. The drilling contractor used a Schramm T650WS rig with a towed dust suppression trailer mounting a cone splitter producing an approximate 25% split sample. The rig was accompanied by a truck mounted auxiliary compressor and a second truck with drill-rod handling facilities on-board. The rig drilled a 5¼" hole.

- A total of 39 holes, as shown in Figure 2, were drilled to various depths for a cumulative total of 2579 metres in both EL9975 and EL9998. Holes targeted:
- known manganese occurrences south of Hunter Creek in EL9975,
- known manganese occurrences in EL9998, and
- EM anomalies/lineaments in EL9998.

The results of the drilling program were somewhat successful and yet somewhat disappointing. Most holes successfully intersected thin horizons of manganiferous material however no significant thicknesses of ore-grade mineralization were found in adjacent holes. The mineralization appears to exist as local enriched horizons with little lateral continuity, as shown in Figure 3, which illustrates one of the better grade sections. Even drilling *directly* under massive outcrops, with bore-hole azimuths of 090 and 270 (strike of mineralization was 000) failed to intersect down-dip continuity of surface mineralization.

This enigmatic mineralization is undoubtedly significant but more thought is required to develop a geological and thence exploration model.

Insert EL9975\_EL9998\_EL23624\_200906\_07\_figure 2.pdf here

Figure 2. Plan showing the relative location of RC collars for holes drilled in the 2008/2009 exploration field season.

Insert EL9975\_EL9998\_EL23624\_200906\_08\_figure 3.pdf here

Figure 3. Cross section showing drillholes with manganese assay results at section 7974790mN in EL9975

### **3.2 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.

<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

The total survey area was divided into two sections covering the grouped tenement holdings. The location of the survey areas is shown in Figure 4.

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

#### **3.2.1 Aeromagnetic data**

The supplied gridded imagery of the magnetic data shows very little detail in the TMI, 1VD or 1VD RTP datasets. Linear features associated with the faulted contacts between the Powell Formation (Renner Group) and the Carruthers Formation (Namerinni Group) can be identifiable, as is a general magnetic low, which may be associated with rocks of the lower lithofacies of the Shillinglaw Formation (Namerinni Group). Little further detail is observed. As a consequence the data was sent for reprocessing using Vector Research's (a Perth-based geophysical consultancy) TargetMap software in early March 2009.

#### **3.2.2 Radiometric data**

The radiometric data shows significantly elevated potassium and uranium anomalies which are coincident with the rocks mapped as upper lithofacies units of the Shillinglaw Formation. These anomalies dominate EL9975. Within EL9998 the signature is somewhat attenuated as cover increases however the general extent of the Namerinni Group is obvious.

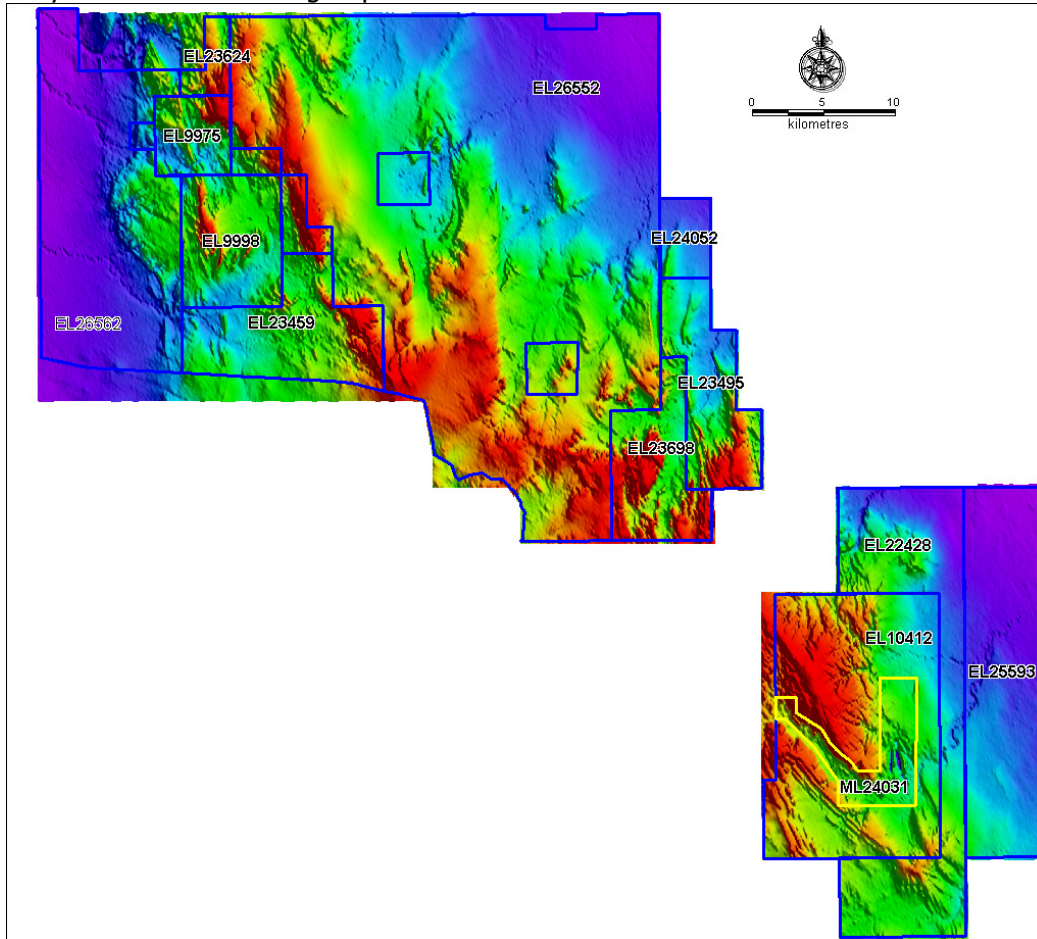
The rocks described as being of Cretaceous Period age which occur in EL9998 are coincident with an elevated Thorium signature across EL9998. The elevated Thorium signature also exists in the north-eastern corner of EL9975 and north into EL23624



### **3.3 Reprocessing of 2007/2008 SkyTEM data.**

The EM data collected during the previous reporting period produced gridded images showing the licence dominated by EM conductor which is coincident with the potassium signature observed in the radiometric data as mentioned above. Beyond that observation the image is quite noisy and so, in late February 2009, all of OMM's EM datasets were sent to Vector Research for reprocessing using the TargetTEM algorithms.

Analysis of the reprocessed data continues at the time of writing and will be combined with the data generated during the detailed field mapping project presently underway to generate drilling targets for year 8 of the licence group.



**Figure 4.** Map showing the extent of the 2008 aerial geophysical survey over all OMM tenements holding in the Bootu Creek, Helen Springs and Renner Springs Project areas. The Bootu Creek mine is located in ML24031, the yellow coloured polygon in the southeast portion of the image. The pseudocoloured image represents the DTM collected during the survey.

### **3.4 Aerial photography**

On April 24<sup>th</sup> 2009 a program of aerial photography was conducted by United Graphic and Photo Services under contract to Survey Graphics Mapping Consultants. 89 images were captured to produce imagery at a nominal scale of 1:20,000 with an approximate ground pixel size of 0.3m.

Initially, photo images were orthorectified using 50 metre DEM. This was improved with registration with respect to point data collected by OMM geologists using sub-metre differential GPS. Each frame was seamlessly mosaiced and the final image colour balanced.

The final mosaiced image was supplied in ECW at 20:1 compression and comprises the attached file EL9975\_9998\_23624\_200905\_09\_airphoto.ecw,

The program was designed to provide base maps for the detailed field mapping project described below.

### ***3.5 Detailed mapping***

Contact prints made from the aerial photography captured as described above is to be used as base maps for a mapping project across selected parts of EL9975, EL9998, and EL23624. The work, which was underway at the time of writing this report, comprises broader scale traverse style mapping with follow up phase of more detailed mapping in areas of known mineralization or areas of interest discovered in the traverse phase.

The geological mapping will be combined with the extensive geophysics to produce a robust exploration program to be conducted either before the end of the 2009 dry season or in April-June 2010.