OM Manganese Ltd

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EL26562
Renner Springs Project

Annual (Year 5) & Final Technical Report - 2 September 2008 to 31 July 2013

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Abstract

A regional aeromagnetic and radiometric geophysical survey was flown in year one and reprocessed in year two. Interpretation of the data indicates the western half of the original EL area hosts Helen Springs Volcanic rocks beneath alluvium.

A program of detailed aerial photography was conducted over the eastern half of the original EL, dominated by outcropping units belonging to the Renner Group, and regional mapping at 1:20,000 scale was undertaken during year two. No manganese mineralisation was identified on EL26562.

There was no exploration activity in Year 5.
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<td>This report</td>
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<td>Aeromagnetic and radiometric data</td>
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<tr>
<td>Appendix 2 – Renner Springs Orthophoto 2009</td>
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1 Introduction

1.1 Location and tenure

Exploration Licence EL26562 was granted on September 2\textsuperscript{nd}, 2008. The licence is held jointly by OM (Manganese) Ltd (50%) and Neil Henry Scriven (50%). Access to the licence is by station tracks and the Amadeus Gas Pipeline tracks.

The original licence covered 73 blocks and comprises the western most licence of OMM's Renner Springs Project Area. Subsequent reductions included 49 blocks at the end of year two, 12 blocks at the end of year 3 and a further 6 blocks at the end of year four. The remaining 6 blocks, located adjacent to the north western boundary of EL28041, were surrendered on 31/07/2013.

Figure 1. EL26562 Location plan - showing adjacent Renner North prospect and EL relinquishments
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 original licence area is covered by recent fluvial sediments, overlying Helen Springs Volcanics (aeromagnetic interpretation).

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 (Hussey et al, 2001)
3 Exploration Activity

3.1 2008/2009 (Year 1)

Exploration activities conducted during the first year of tenure consisted of an aeromagnetic and radiometric survey covering the entire tenement, as well as all tenements to the east of EL26562, with lines spaced 150m apart.

1:20,000 scale aerial photography was captured on the east side of the tenement, and on the adjacent Renner Springs Project area. Individual aerial photos were then ortho-recitified and amalgamated into a seamless mosaic.

3.1.1 Aerial Geophysical Data

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.

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<th>Type of Data</th>
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<tr>
<td>Survey datum</td>
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<tr>
<td>Survey line spacing</td>
<td>150 metres</td>
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<td>Tie line spacing</td>
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</tr>
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<td>Job No.</td>
<td>2356</td>
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<tr>
<td>Survey commissioned by</td>
<td>OM (Manganese) Limited</td>
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Table 1. OMM 2008 Geophysical survey parameters
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.

Figure 3. Ternary image compiled from the K, U, and Th radiometric data acquired in 2008
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, TMI-RTP, and RTP1VD.

The dominant feature observed in each of the native and reprocessed 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 over EL25593, with subsequent drilling intersecting fine-medium grained, intermediate (andesite?) interpreted as buried Helen Springs Volcanics.

Figure 4 1VDRTP magnetic image over EL26562. The ‘noisy’ signature dominating the western half of the licence is interpreted as buried Helen Springs Volcanics.
3.1.2 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), with coverage extending over the eastern half of EL26562.

The data was passed on to Survey Graphics in Perth for processing. Alternative frames were ortho-rectified using 50 metre DEM and were colour balanced and mosaicked seamlessly.

Figure 6. Aerial photography over EL26562, showing adjacent tenure at time of capture.
3.2 2009/2010 (Year 2)

Exploration activities conducted during the second year included review of historical open file reports and collation of the data within them, and field mapping.

Detailed field mapping at 1:20,000 scale, along the eastern edges of EL26562, was undertaken by Tim Blake of Micraster Geological Services. Tim paid particular attention to structure and alteration (including mineralisation) and the relationship to stratigraphy.

Digitisation of the data was completed in mid-February 2010 with results and subsequent interpretation presented to OMM in March 2010. No manganese outcrops or favourable geology were located on EL26562.

The aeromagnetic data was sent to Vector Research for reprocessing using the TargetMap algorithms, though output was not regarded as being that useful.

3.3 2010/2011 (Year 3)

Exploration activity on EL26562 in year 3 was delayed pending the outcomes of higher priority exploration program undertaken on the adjacent Renner Springs EL28041, including resource delineation of Renner West deposit and adjacent Gradient Array IP surveys.

3.4 2011/2013 (Year 4-5)

Exploration activity on EL26562 in 2012 was delayed due to budgetary constraints and pending completion of the 20.75 line km Renner North Gradient Array (GAIP) survey, completed in June 2012 on the adjacent EL28041. The Renner North prospect had the potential to trend into EL26562.

The area of EL26562 licence had been significantly reduced by the end of year four (-92%), down from the original grant of 73 blocks, to the remaining 6 blocks located immediately northwest of the area of interest on EL28041.

The 2013 Renner North exploration drill program was again delayed due to budgetary constraints and after review, a decision was made to surrender the last 6 blocks at the end of Year 5.
4 Conclusions and Recommendations

EL26562 was applied for with the intent of exploring the ground located to the west of the OMM Renner Springs Project area.

Subsequent aeromagnetic and radiometric surveys and 1:20,000 scale geological of mapping of western margins of EL28041 failed to identify any manganese outcrop/float or any significant extent of the potential manganese hosting Namerinni Group sediments.

EL26552 had been reduced from the original 73 blocks granted in 2008 to 6 blocks by 2012.

It was concluded that the remaining 6 blocks were no longer considered prospective for manganese mineralisation and were recommended for surrender prior to the end of Year 5.

5 References
