OM Manganese Ltd

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

EL9998
Renner Springs Project

Final Report
for period
3rd June 2002 to 2nd June 2010

Author: Reddell, C.T. Geology Manager - OM (Manganese) Ltd

Target Commodity: Manganese

Date of report: 24/09/2010

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
Abstract

Exploration activity for year 1 to 8 included field inspection and shallow RAB drilling, reconnaissance mapping, interpretation of Aster spectral imagery, helicopter-borne SkyTEM flown on 200m spaced lines (infilled to 100m spaced lines over main prospects), airborne magnetic and radiometric surveys on 150m spaced lines, heritage surveys, 677m of RC drilling, aerial photography, regional mapping of geology, structure and alteration at 1:20,000 scale and detailed prospect mapping at 1:4,000 scale.

EL9975, EL9998 and parts of EL23624 were surrendered in favour of SEL28041 (in application).
Contents

ABSTRACT ................................................................................................................................................... 2

CONTENTS ................................................................................................................................................... 3

1 LOCATION AND TENURE ................................................................................................................... 5

2 GEOLOGY .......................................................................................................................................... 6

3 EXPLORATION ACTIVITY .............................................................................................................. 7

3.1 EXPLORATION ACTIVITY 2002/2003 .......................................................................................... 7

3.2 EXPLORATION ACTIVITY 2003/2004 ........................................................................................ 7

3.3 EXPLORATION ACTIVITY 2004/2005 ........................................................................................ 7

3.4 EXPLORATION ACTIVITY 2005/2006 ........................................................................................ 7

3.5 EXPLORATION ACTIVITY 2006/2007 ....................................................................................... 8

3.6 EXPLORATION ACTIVITY 2007/2008 ....................................................................................... 9

3.7 EXPLORATION ACTIVITY 2008/2009 ..................................................................................... 10

3.8 EXPLORATION ACTIVITY 2009/2010 ..................................................................................... 11

4 REFERENCES ...................................................................................................................................... 12

APPENDICES
## Electronic file list

<table>
<thead>
<tr>
<th>File Name</th>
<th>File type</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL9998_2010_S_01.pdf</td>
<td>pdf</td>
<td>This report</td>
</tr>
<tr>
<td>EL9998_2010_201006_02_collars.txt</td>
<td>Tab del txt</td>
<td>Drill hole collars location data</td>
</tr>
<tr>
<td>EL9998_2010_201006_03_assays.txt</td>
<td>Tab del txt</td>
<td>Sample assay results</td>
</tr>
<tr>
<td>EL9998_2010_201006_04_geol_logs.txt</td>
<td>Tab del txt</td>
<td>Down hole geology logs</td>
</tr>
<tr>
<td>EL9998_2010_201006_05_DHsurvey.txt</td>
<td>Tab del txt</td>
<td>Down hole survey data</td>
</tr>
<tr>
<td>EL9998_2010_201006_06_logging_codes.pdf</td>
<td>pdf</td>
<td>OMM geology logging codes</td>
</tr>
<tr>
<td>Plate 1 - 20k Geology Mapping.pdf</td>
<td>pdf</td>
<td></td>
</tr>
<tr>
<td>Plate 2 - 20k Mapping Units.pdf</td>
<td>pdf</td>
<td></td>
</tr>
<tr>
<td>Plate 3 - 4k Geology Mapping.pdf</td>
<td>pdf</td>
<td></td>
</tr>
<tr>
<td>Plate 4 - Drillhole Location Plan.pdf</td>
<td>pdf</td>
<td></td>
</tr>
<tr>
<td>Appendix 1 - 2007 mapping</td>
<td>doc</td>
<td>Word doc report</td>
</tr>
<tr>
<td>Appendix 2 - RennerSprings_SkyTEM_3</td>
<td>xyz</td>
<td>Gridded EM data</td>
</tr>
<tr>
<td></td>
<td>bmp</td>
<td>MapInfo images</td>
</tr>
<tr>
<td>Appendix 3 - Bootu Creek North – GPX mag and rad survey</td>
<td>ers</td>
<td>ER Mapper grid data</td>
</tr>
<tr>
<td></td>
<td>tif</td>
<td>MapInfo image</td>
</tr>
<tr>
<td>Appendix 4 - Renner Springs Orthophoto 2009</td>
<td>ecw</td>
<td>MapInfo image</td>
</tr>
<tr>
<td>Appendix 5 - 2009 mapping</td>
<td>Mapinfo tab</td>
<td>MapInfo table file</td>
</tr>
</tbody>
</table>
1 Location and tenure

Exploration Licence 9975 consists of 9 blocks and is located 70 km northwest of the Bootu Creek Manganese Operation. The project area is accessed via station tracks heading west from the Stuart Highway a few kilometres south of the Renner Springs road-house or from the Amadeus Gas Pipeline access track. The licence forms part of the Renner Springs Project.

The licence was granted to M. Sakurai and R. Johnson on June 3rd 2002 for a period of six years. The licence was sold to and subsequently managed by Bootu Creek Resources Pty Ltd before the end of year one, and later managed by its parent company OM (Manganese) Limited. The exploration licence was extended for a further period of 2 years from June 2008. EL9975 (along with EL9998 and parts of EL23624) was surrendered at the end of year 8 in favour of SEL28041 (in application).

Figure 1. Plan showing extent of Renner Springs Project and location of EL9975
2 Geology

The licence area is located within the Asburton Province of the Paleoproterozoic to Mesoproterozoic Tennant Creek Inlier. The project area is mainly comprised of an alternating sequence of sandstone, siltstone and carbonate successions from the Namerinni Group and the unconformably overlying Renner Group.

The manganese mineralisation is mainly associated with the Shillinglaw formation of the Namerinni Group.

A detailed description of the Geology is included in the “Summary of exploration activities for 2006, preliminary geological model and proposed exploration strategy” by Amit Eliyahu attached in Appendix 1.

Figure 2. NTGS Geology from 1:250k Helen Springs sheet.
3 Exploration Activity

3.1 Exploration Activity 2002/2003

In October 2002, Bootu Creek Resources commenced an exploration program that included mapping of outcrops in chosen areas and a follow up drilling program. The program comprised 446 metres of open-hole percussion drilling in 15 drill holes on the western portion of EL9998.

3.2 Exploration Activity 2003/2004

No field exploration activities were undertaken within EL9998 during year two as Bootu Creek Resources was focussing all their resources on drilling out the Bootu Creek Project manganese deposits.

3.3 Exploration Activity 2004/2005

During the third year of tenure 446 metres of open hole percussion drilling in 26 holes was undertaken on EL9998 to test an area of flat subcropping manganese.

3.4 Exploration Activity 2005/2006

No fieldwork was undertaken on EL 9998.
3.5 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 on leases EL 9975, 9998 and 23624.

Field reconnaissance confirmed to project area was highly prospective and under-explored. Two mineralised styles were identified, both different in character from that mined at Bootu Creek. A total of 9 new manganese occurrences and extensions to existing mineralised zones were identified and indicated in red in Figure 3 shown below (previous known outcrops shown in orange).

Figure 3. Identified Manganese Outcrops in Renner Springs Project.
3.6 Exploration Activity 2007/2008

Exploration activity for the 12 months to June 2008 included:
- heritage clearance surveying,
- acquisition of high resolution satellite imagery over the Renner Project area,
- an extensive helicopter-borne SkyTEM survey (Appendix 2),
- access and site preparation for a planned 2,000 metre RC drill program outlined in the Renner Springs 2007 Mine Management Plan, and
- commencement of that RC drill program with 606 metres in 9 drill holes completed to June 2nd 2008.

Figure 4. SkyTEM survey of Renner Springs Project area image - Channel 15 (292 microseconds delay) height corrected Z-amplitude.
3.7 Exploration Activity 2008/2009

Exploration activities conducted during the 2008/2009 year included:

- completion of the previously commenced RC drill program with 1,296 metres drilled in 22 drill holes.
- a detailed aeromagnetic and radiometric survey flown by GPX Geophysical Services (Appendix 3),
- reprocessing of SkyTEM data and the recently acquired aeromagnetics,
- acquisition of high resolution aerial photography, and
- commencement of a detailed regional and prospect scale mapping project.

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

*Table 1. OMM 2008 Geophysical survey parameters*
3.8 **Exploration Activity 2009/2010**

Exploration activities conducted during the final year included:

- a review of historical open file reports and collation of the data within them,
- orthorectification of the aerial photography acquired during the previous report period (Appendix 4),
- detailed regional and prospect mapping at 1:20,000 and 1:4,000 scale scale (Plates 1-3 and Appendix 5).

![Figure 5. 2009/10 exploration activity over the Renner Springs Project tenements.](image-url)
4    Drilling

<table>
<thead>
<tr>
<th>Year</th>
<th>Drill_Type</th>
<th>Holes</th>
<th>Metres</th>
<th>First Hole_ID</th>
<th>Last Hole_ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>PC</td>
<td>15</td>
<td>446</td>
<td>BH01</td>
<td>BH88</td>
</tr>
<tr>
<td>2005</td>
<td>PC</td>
<td>26</td>
<td>449</td>
<td>RPH1</td>
<td>RPH9</td>
</tr>
<tr>
<td>2008</td>
<td>RC</td>
<td>31</td>
<td>1902</td>
<td>RSRC0001</td>
<td>RSRC0039</td>
</tr>
</tbody>
</table>

see Plate 4 - Drillhole Location Plan.

5    References


