Metallurgical testing confirms commercial-grade potential at Oakover Manganese Project

Highlights

- Preliminary metallurgical tests show that high-grade (greater than 15% Mn) feed mineralisation can be beneficiated to a marketable, commercial-grade product containing up to 36.9% Mn
  - Low iron, low contaminants
  - Average Mn recovery of 57.3% and mass yield of 30%
- Follow-up drilling program is underway, 10 diamond holes to be drilled at key prospects
- Aggressive exploration program scheduled for late 2011

Perth-based manganese and base metal explorer Brumby Resources Limited (ASX: BMY) (“Brumby” or “the Company”) is pleased to advise that preliminary metallurgical testing has confirmed previously reported manganese (Mn) mineralisation at the Company’s flagship Oakover Project in WA’s East Pilbara Manganese Province, can be beneficiated to produce a marketable, commercial-grade >35% Mn product.

First pass metallurgical beneficiation testing undertaken on six samples of RC chips from the Sixty Sixer Prospect indicates that samples of varying feed grades (> 15% Mn) can be beneficiated to an average 35.9% Mn product that is low in iron and contaminants.

Chief Executive Officer Alison Morley said the results are highly encouraging with recovery and yields similar to those at other West Australian projects, and will assist with designing future drilling programs and testwork at the Project.

“Though the metallurgical tests are preliminary at this stage, we are very excited by the results that confirm the Oakover ore can be beneficiated to a marketable product.”

“A follow-up drilling program is now underway, with 10 diamond holes planned at key prospects to obtain a complete sample for definitive metallurgical testing,” she said.

The Company has identified numerous untested manganese targets at the Project that will be drilled as part of an aggressive exploration program later this year.

ENDS

For more information please contact

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About Brumby Resources

Brumby Resources Limited (Brumby) is a diversified Perth-based exploration company with a focus on manganese and base metal exploration. The Company has assembled high quality ground holdings in Western Australia and the Northern Territory (Figure 1).

Brumby's 100% owned flagship Project, the Oakover Project is located approximately 80km east of Newman in WA's East Pilbara Manganese Province (Figure 2). The Project lies within 100km of the Ant Hill manganese deposit and 50km from Nicholas Downs manganese deposit operated by Hancock Mining and Mineral Resources.

In the most recent drilling program, significant Mn results were returned for the Karen, Sixty Sixer, Jay Eye, Rohde SW, Louis and Bill prospects. 48 Reverse Circulation (RC) drill holes contained significant shallow Mn mineralisation, defined as greater than 3m downhole interval, at greater than 10% Mn, within 50m of the surface. The results indicated that Mn mineralisation at the Sixty Sixer Prospect, in particular, has a substantial-sized footprint.

Initial geological interpretation of the latest results indicate the Mn mineralisation at Karen and Sixty Sixer prospects appears to be stratigraphically and regolith-controlled, relatively flat-lying and continuous. Further drilling along strike at each of these prospects will be undertaken in order to test this interpretation. Brumby notes that the downhole intercepts reported in this report do not necessarily represent the true thickness of the mineralisation, which cannot be determined until the attitude of the mineralisation is confirmed.

Preliminary metallurgical testing has been undertaken on samples of RC drill chips collected in the December 2010 drilling program. The results of this, whilst preliminary, indicate that the mineralisation intersected by Brumby can be beneficiated by simple processes to a marketable product.

Metallurgical Testing Details

The Heavy Liquid Separation (HLS) metallurgical testing and mineralogical analysis was undertaken by ALS – Ammtec Metallurgy Laboratories in Balcatta, Perth. Interpretation and analysis of the results was undertaken by Ozmet, Perth.

As the test work was undertaken on a sample of RC chips, rather than a full sample of in situ mineralised material, it cannot give a precise indication of how beneficiation run-of-mine size mineralisation would perform. However, this initial test work gives Brumby the confidence that the mineralisation at Oakover could potentially be upgraded to a greater than 35% Mn product. Using an average of the >15% Mn feed grade samples (OKRC133 0-2, 2-3 and 8-9) from the Sixty Sixer Prospect, a 19.2% feed grade can be beneficiated to a 35.9% Mn product, with Mn recovery of 57.3% and mass yield of 30%. The results will assist design of future drilling programs and test work at the Oakover Project

Methodology

In total, nine samples of RC chips - six from Sixty Sixer Prospect and three from Karen Prospect - were selected in order to gain data from a representative range of feed grade samples. After preparation, the samples were split into the following subsamples:

- 500g for analysis;
- 500g reserve for mineralogy;
- 2kg for sizing and heavy liquid separation; and
- Balance held for reserve
The 2kg splits were sized at 3.35mm, 2.00mm, 1.40mm, 1.00mm, 0.85mm, 0.50mm, 0.35mm, 0.25mm, 0.125mm, 0.090mm, 0.063mm, and 0.045mm. Post sizing, the fractions were recombined into +2.00mm, -2.00/+0.50mm, and -0.50/+0.045mm for Heavy Liquid Separation. The -0.045mm fraction was retained for analysis.

Heavy liquid separation (HLS) was conducted at **Specific Gravity (SG) of 3.40** using Clerici’s Solution (Thallium Malonate/Thallium Formate solution) on the 27 fractions.

Samples of Head Feed, -45um, and sink/float products were analysed by ICP. Four of the sink/float sample pairs – three from Sixty Sixer and one from Karen – were submitted for further mineralogical study in order to provide information regarding optimisation of the HLS process.

**Results**

Table 1 shows a summary of the characteristics of the original samples and the results of sinks component of the HLS procedure at a 3.4 SG. Assays were determined by laboratory XRF Analysis.

**Table 1. Summary of HLS Test Results**

<table>
<thead>
<tr>
<th>Prospect</th>
<th>Hole</th>
<th>Sample From-To (m)</th>
<th>Sub-sample description</th>
<th>Mn (%)</th>
<th>Fe (%)</th>
<th>SiO₂ (%)</th>
<th>P (ppm)</th>
<th>Mass Yield %</th>
<th>Mn Recovery %</th>
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<tr>
<td>Sixty Sixer</td>
<td>OKRC133</td>
<td>0-2</td>
<td>Head Feed HLS (sinks)</td>
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<td>7.9</td>
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</table>

Of the six samples from Sixty Sixer, three returned results of >35% Mn and two returned results above 33.3% Mn. Yields and recoveries for each sample are variable and are summarised in Table 1, but in general are comparable to those publicly reported at similar projects in the East Pilbara Mn Province. The HLS procedure also results in a sample that is low in iron and also in potential contaminants, such as SiO₂ and P.

Mineralogical analysis of four of the samples indicates that there may be some potential for further upgrading of the Mn content at Sixty Sixer based on particle size and SG optimisation. Mineralogical analysis also determined that the unexpected performance of the OKRC133 22-23m sample at the Sixty Sixer Prospect was probably due to the Mn in this sample being contained in very low SG minerals (possibly pyrochroic and binnessite) which did not report to sinks. This information will assist Brumby in designing future drilling and data collection strategies.
Mineralogical analysis of one sample from Karen Prospect indicated that the Mn oxides in this area are strongly associated Mn silicates and the mineralisation may be difficult to beneficiate. Brumby will determine if the sample tested was representative of the entire Karen Prospect and use the information to determine the focus of future drilling programs.

These results, whilst preliminary, give Brumby confidence that the mineralisation at the Sixty Sixer Prospect can be beneficiated to a marketable >35% Mn product with reasonable yield and recoveries. The results will also be used to guide optimisation of the HLS procedure for the Oakover product. Further work will be undertaken at the Karen Prospect to determine if the drill hole selected for testing was representative of the entire Prospect.

**Future Plans**

A further 500m PQ diamond drilling program is currently underway and laboratory analysis of mineralisation at the Oakover Project will be undertaken on the resultant core to provide a complete analysis of the metallurgical beneficiation potential of the manganese at Sixty Sixer, Jay Eye and Karen Prospects.

Depending on the results of the diamond core metallurgical beneficiation program, an intensive program of aircore drilling is planned for the Oakover Project beginning in August/September 2011.

Brumby’s future drilling programs will test the lateral extents, extensions at depth and continuity of the Mn mineralisation, particularly at the Sixty Sixer and Jay Eye prospects. The program will also test numerous and extensive new targets defined from geophysical and comprehensive mapping programs conducted by the company in 2010.

**Competent Person’s Statement**

The information in this report that relates to the exploration results is based on information measured and compiled by Mr. Louis Hissink M.Sc. M.IEEE, a consulting geologist to Brumby Resources Limited, and a member of the Australian Institute of Geoscientists. Mr Hissink is competent to report exploration results as defined in the December 2004 edition of the JORC code and consents to the inclusion in the report of the results and matters based on his information in the form and content in which they appear.
Figure 1. Project Locations

Figure 2. Prospect Locations at Oakover