

July 8, 2009

TSXV-MMS

## **MOONSHINE RESOURCE ESTIMATE INCREASED BY 76 PERCENT**

Vancouver, BC – **Macarthur Minerals Limited** (TSXV-MMS) today advised that an updated independent estimate had increased the Inferred Mineral Resource estimate for its Moonshine magnetite iron ore project in Western Australia by 76 percent. The new Inferred Mineral Resource estimate for the Moonshine deposit is 253 million tonnes at 26.4% Fe and shown in Table 1.

Table 1 – Moonshine Inferred Mineral Resource

	Tonnes (Mt)	Grade % Fe	% Mass Recovery
In-Situ	253.0	26.4	
Davis Tube Concentrate	71.5	65.7	28.3

### **Notes for Table 1**

- Figures contained within Table 1 have been rounded. % Fe grades % Mass Recovery are rounded to 1 decimal figure.
- Davis Tube concentrate results is the proportion of sample extractable by magnetic separation.

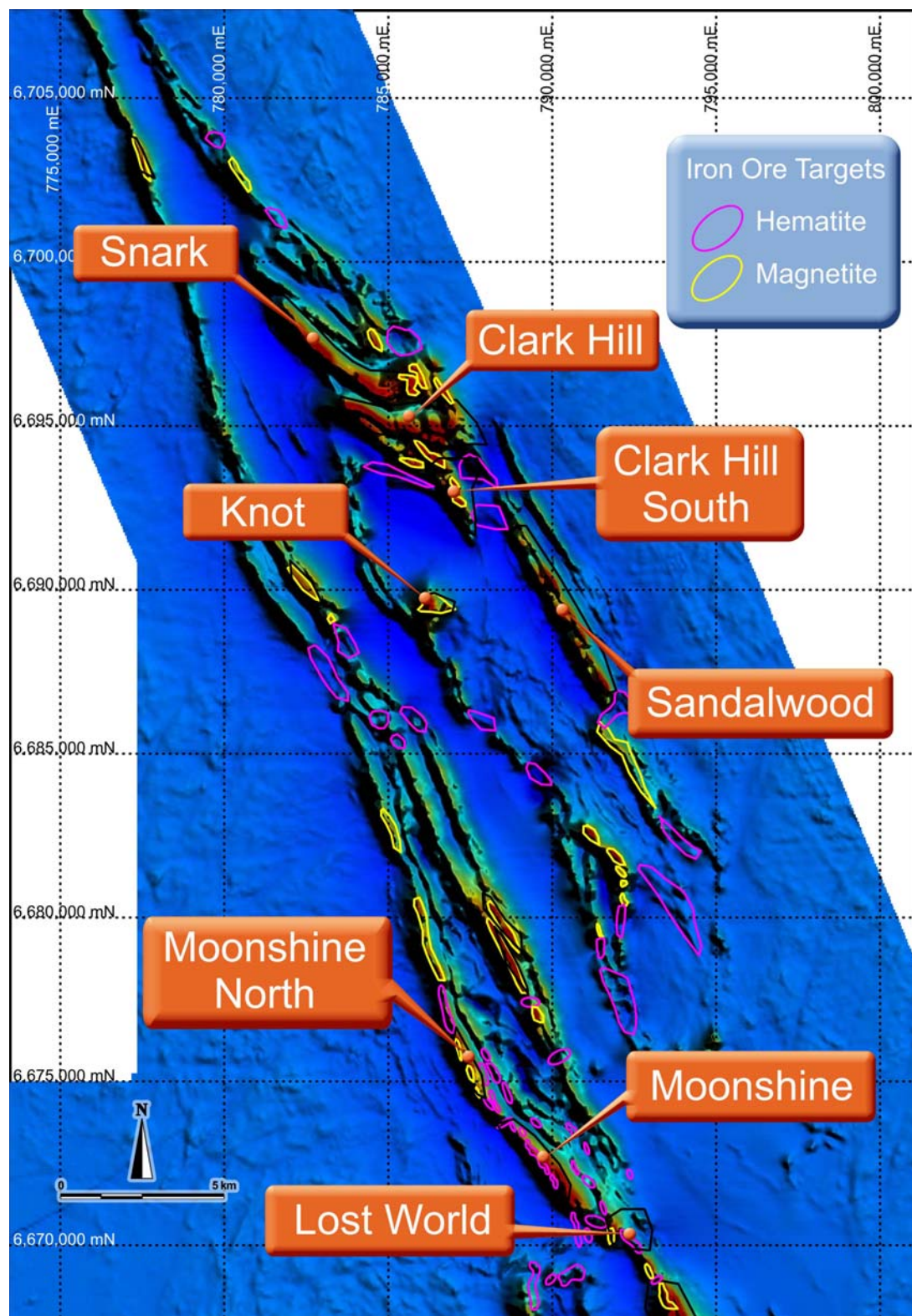
The new Moonshine Inferred Mineral Resource estimate increases the Company's total Inferred Mineral Resource estimate for the Lake Giles project to 450 million tonnes at 26.3% Fe (refer Table 2).

Lake Giles Mineral Resource estimate has been updated by CSA Global Pty Ltd ("CSA") with a revised estimate for the Moonshine deposit. The Moonshine deposit is located in the south of the Lake Giles Project (refer Figure 1) and is now recognised as the Company's most significant deposit. No new estimates were completed for the Company's four other deposits.

Macarthur considers that the Moonshine prospect has the potential to deliver further tonnage increases and deliver the Company its short term target tonnage of 500mt. A recently completed exploration targeting exercise has identified a further 49 exploration targets (refer Figure 1). Geological mapping of the Moonshine North prospect has similar outcropping geometry and strike lengths to that of the Moonshine deposit.

Macarthur Minerals Director, Mr David Barwick said a NI43-101 Technical Report for the project will be lodged with Sedar within 45 days and that the Stage 7 drill program was progressing on schedule.

**Figure 1 : Lake Giles Projects and Exploration targets.**



The previous Moonshine Inferred Mineral Resource estimate by Hellman and Schofield (H&S) (refer announcement on April 6, 2009) was 144.1 million tonnes at @ 25.9% Fe. For the new resource update, the Company supplied CSA with a new geological interpretation based on new surface mapping of contacts, re-logging of drill holes and re-interpretation of the dip of the banded iron formation (BIF) contacts together with the drill hole database comprising collar location, downhole survey, assays and geology logs for drilling up to the Stage 6 drilling program (refer Figure 2).

Analytical data for mineralised portions of these holes include Davis Tube concentrate results which measure the proportion of sample extractable by magnetic separation. Material concentrated by the Davis Tube test was assayed by X-ray fluorescence (XRF) for iron and other elements of interest.

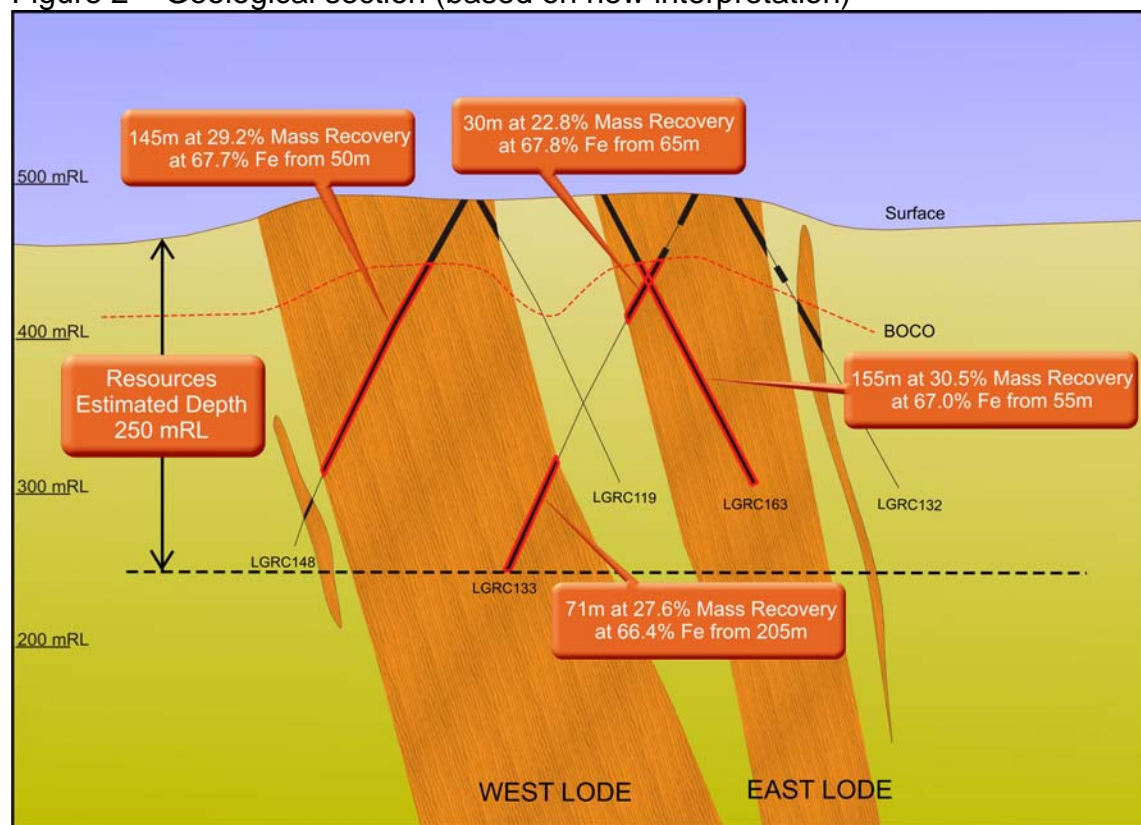
A cut-off of 15% Davis Tube Recovery (DTR) was applied. The oxide boundary was revised based on Macarthur's new logging of weathering and magnetism of drill chips, the DTR % recovery and the calculated % Fe recovered.

A block model was constructed using the three dimensional geological wireframes. Density estimates were based on 533 density values from nearby Macarthur deposits at Lake Giles, 296 of which were for BIF. A fixed average density of 3.3 g/cm<sup>3</sup> was applied at Moonshine.

New variograms were produced for head grades, DTR and concentrate grades for each element including Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, S, and LOI. The data were split into two domains for the west and east lodes. The variograms demonstrate the mineralisation has high spatial continuity within the stratigraphic boundaries.

The Moonshine resources were estimated by Ordinary Kriging. Interpolating the grades a single search ellipse was used to ensure the same set of samples was used for each cell, but each element was interpolated using its own variogram models. A minimum of 12 samples and a maximum of 30 samples were used, and grades were interpolated into 25 x 25 x 10m parent cells.

Figure 2 – Geological section (based on new interpretation)



#### Notes for Figure 2

- Boco is defined as Base of complete oxidation
- Intervals reported are down hole width, true widths will be determined.
- % Fe Grade stated is the assayed Fe grade of the concentrate of the DTR (mass recovery).

The updated Mineral Resource estimate is shown in Table 2. The Lake Giles project is at an early stage of evaluation. Macarthur has not established the economic viability of the Mineral Resources, and no Ore Reserve estimates have been produced for the deposit. The extent to which mining, metallurgical, marketing, infrastructure, permitting, marketing and other financial factors may affect Mineral Resource estimates is not yet determined.

Drilling has not yet defined the full extents of the Lake Giles magnetite mineralization. There is potential for substantial additional mineralization from further drilling. It is expected the resource will increase when the Stage 7 drilling assays are received and the Mineral Resource estimate is updated.

**Table 2: Lake Giles Inferred Mineral Resource Estimate**

<b>Deposit</b>	<b>Million Tonnes</b>	<b>Fe %</b>
Snark	26.3	27.5
Clark Hill North	37.1	26.0
Sandalwood	84.7	28.3
Clark Hill South	48.5	21.9
Moonshine	253.0	26.4
<b>Total</b>	<b>450</b>	<b>26.3</b>

(rounding errors may occur)

**Notes for table 2:**

- Figures contained within Table 2 have been rounded. % Fe grades are rounded to 1 decimal figure.
- Magnetite mineralization at Moonshine is interpreted to comprise several sub-vertical northwest trending zones of banded iron formation (BIF) and ultramafic rocks. The mineralized interpretation used for the estimates extends from the base of oxidation at an average of approximately 70 metres below surface to the depth of the deepest Moonshine mineralized drill intersection at approximately 250 metres below surface, at about 250mRL.
- The Moonshine deposit has been sampled by 68 RC holes drilled by Macarthur between June and December 2008. Drill hole coverage of the Moonshine area is irregularly spaced with spacing between drill holes varying from less than 50 metres to approximately 350 metres.

### **Stage 7 Drilling Program Update**

The Company is pleased to report the Stage 7 (6,500 metre drill program) is 76% completed with a total of 26 holes for 4,962m drilled to date.

Mr. Chris Allen, MAusIMM, who is a full-time employee of CSA and is an Independent Qualified Person, has reviewed and approved the above technical information relating to the Moonshine Mineral Resource estimate contained in this release.

Mr. Jonathon Abbott, MAusIMM, who is a full-time employee of H&S and is an Independent Qualified Person, has reviewed and approved the above technical information relating to the Mineral Resource estimates for Snark, Clark Hill North, Sandalwood and Clark Hill South contained in Table 1.

## QUALIFIED PERSON

Mr. Andrew Spinks B.App.Sc, Grad.Dip (Mining), a member of AusIMM, and a consultant geologist, is a Qualified Person as defined in National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"), in charge of the exploration on the Lake Giles project.

On behalf of the Board of Directors,

## MACARTHUR MINERALS LIMITED

*"David K. Barwick"*

David K. Barwick, President, Chairman & CEO

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