

NEWS RELEASE

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For Immediate Dissemination

LAKE GILES RESOURCE ESTIMATE UPDATED TO 1.117 BN TONNES

VANCOUVER, BRITISH COLUMBIA – (Marketwire – February 23, 2010), Macarthur Minerals Limited (MMS – TSXV) (“Macarthur”) today advised that an updated independent Mineral Resource estimate had increased the Inferred Mineral Resource estimate for its Clark Hill South and Snark magnetite iron ore projects in Western Australia to 66.5 million tonnes at 30.3% Fe, and 75.0 million tonnes at 27.7% Fe, respectively.

The new Inferred Mineral Resource estimates increase the company’s total Inferred Mineral Resource estimate for the Lake Giles project to 1,117 million tonnes at 28.7 % Fe (Table 1). This is a 11% and 1.4% increase in tonnes and grade respectively when compared to the last resource estimate for the Lake Giles project.

Table 1 –Inferred Mineral Resource

Clark Hill South	Tonnes (Mt)	Grade % Fe	% Mass Recovery
In-Situ	66.5	30.3	
Davis Tube Concentrate	19.2	65.0	28.8

Snark	Tonnes (Mt)	Grade % Fe	% Mass Recovery
In-Situ	75.0	27.7	
Davis Tube Concentrate	17.7	66.2	23.6

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.

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The Lake Giles Mineral Resource estimate has been updated by CSA Global Pty Ltd (“CSA”) with the addition of estimates for the Clark Hill South and Snark deposits. Both deposits are located in the north of the Lake Giles Project.

The Mineral Resource estimate is based on a new geological interpretation and mapping over the 2009 field season. No new drilling was carried out.

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, and other financial factors may affect Mineral Resource estimates is not well defined.

Drilling has not yet defined the full extent of the Clark Hill South and Snark magnetite mineralization. There is potential for substantial additional mineralization from further drilling.

Table 2: Lake Giles Inferred Mineral Resource Estimate(NI 43-101)		
Deposit	Tonnes (MT)	Fe %
Snark	75	27.7
Clark Hill North	130	25.8
Sandlewood	335	31.1
Clark Hill South	66	30.3
Moonshine	511	27.8
Total	1117	28.7

(rounding errors may occur)

Notes for table 2:

- Figures contained within Table 2 have been rounded. % Fe grades are rounded to 1 decimal figure.
- Davis Tube concentrate results is the proportion of sample extractable by magnetic separation.
- Magnetite mineralization is interpreted to comprise several sub-vertical northwest trending zones associated with 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 65 metres below surface to the depth of the mineralized drill intersections ranging from approximately 200 metres to 350 metres below surface.

For the latest resource update, the Company supplied CSA with a new geological interpretation based on an updated 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 and geology logs.

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. The oxide boundary occurs at approximately 65m below surface.

The banded iron formation (BIF) grades were estimated from a relatively small number of drillholes and sample assays. At Snark there are 13 drillholes with 119 BIF samples below the base of oxidation of which 69 have DTR assays. At Clark Hill South, there are only five (5) unevenly distributed drill holes with 70 BIF samples below the base of oxidation, of which 42 have DTR assays. However, the BIF lenses are well exposed and mapping provides clear evidence of strike extent and the mineralized rocktype is quite consistent over its extent, allowing the Mineral Resource to be estimated with a level of confidence appropriate to an Inferred Mineral Resource.

Block models were constructed using the three dimensional geological wireframes. Density estimates were based on 533 density values, 296 of which were for BIF, from the adjoining deposit Clark Hill North. A fixed average density of 3.3 g/cm³ was applied.

Variograms were produced for head grades, DTR and concentrate grades for each element including Fe, SiO₂, Al₂O₃, P, S, and LOI but were not satisfactory due to the small amount of data.

The Inferred Mineral Resources were estimated by Ordinary Kriging using variograms from the Moonshine deposit. 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 50 x 50 x 10m parent cells. Grade estimates were validated against the mean assays of the samples used.

QUALIFIED PERSONS

Mr. Chris Allen, MAIG, 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 Snark and Clark Hill South Mineral Resource estimates contained in this release.

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

"Alan Phillips"

Alan Phillips, President, Chairman & CEO

Corporate Relations

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