

**NEWS RELEASE**  
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 For Immediate Dissemination

## **MACARTHUR MINERALS INCREASES ITS MOONSHINE MAGNETITE RESOURCE BY 39% TO 710Mt at 30.6% Fe**

**VANCOUVER, BRITISH COLUMBIA – (Marketwire – December 15, 2010), Macarthur Minerals Limited (MMS – TSXV) (“the Company”)** is pleased to release its updated magnetite Mineral Resource Estimate for its Moonshine deposit located at its Lake Giles project in Western Australia.

The Inferred Mineral Resource estimate has increased to 710 Mt at 30.6% Fe (refer Table 1) from 511 Mt at 27.8 % Fe. The Inferred Mineral Resource estimate for magnetite for the Lake Giles project has increased from 1,117 Mt at 27.8 % Fe to 1,316 Mt at 30.1 % Fe (Table 2).

The Moonshine deposit is the focus for the current scoping study for magnetite. The updated Mineral Resource Estimate has increased tonnage and grade by 39% and 10%, respectively. The estimate includes 5 Mt at 54.3 % Fe (at a 40% Fe cut-off) has been identified as potential direct shipping ore (DSO) magnetite mineralisation (refer news release dated August 23, 2010). The DSO magnetite is based on diamond drill hole LGDD005 and surrounding RC holes. The iron grade of the DSO magnetite is of similar grade to some iron ores being mined elsewhere in Australia and indicates the potential for the identification of further DSO magnetite mineralisation at the Lake Giles Project, in addition to the potential for DSO goethite/hematite mineralisation.

The company recently released its potential DSO goethite/hematite Inferred Mineral Resource estimate of 18 million tonnes at 55.5% Fe (refer news release dated 25 November 2010).

**Table 1 - Average DTR results for the Moonshine deposit.**

	<b>Tonnes (Mt)</b>	<b>Fe %</b>	<b>% Mass Recovery</b>
In-Situ	710	30.6	
Davis Tube Concentrate	215	66.1	30.3

**Table 2 - Lake Giles Project Mineral Resource Estimate (magnetite) as at December 2010 at a 15% Fe cut-off.**

<b>Deposit</b>	<b>INFERRED</b>	
	<b>Tonnes (Mt)</b>	<b>Fe %</b>
Snark	75	27.7
Clark Hill North	130	25.8
Sandlewood	335	31.1
Clark Hill South	66	30.3
Moonshine	710	30.6
<b>Total</b>	<b>1,316</b>	<b>30.1</b>

**Notes for tables:**

- *Figures contained within Table 1 have been rounded. % Fe grades are rounded to 1 decimal figure.*
- *Davis Tube Recovery (DTR) results are the proportion of sample extractable by magnetic separation.*
- *A block model was constructed using three dimensional geological wireframes.*
- *Variograms were generated and grades were estimated using ordinary kriging.*
- *Outlines and wireframes honour the actual locations of contacts on drill holes that are off section.*
- *Density was estimated with a regression from Fe grade based on core and rock samples.*

The above Mineral Resource increase is based on the recently completed Stage 9 programme, where both diamond and RC drilling was aimed at both increasing the tonnage and *in-situ* Iron (Fe) grade at the Moonshine project. The mineral resource estimates relating to the Moonshine deposits have been modelled by independent mining consultancy group Snowden Mining Industry Consultants Pty Ltd ("Snowden") using the Company's geological interpretation.

Drilling has not yet defined the limits of the Moonshine magnetite mineralization. There is potential for substantial additional mineralization from further drilling.

Macarthur Minerals President, Mr Alan Phillips, stated "The increased tonnage and grade at Moonshine is a great outcome, given this year's drilling was largely focussed on drilling our DSO targets. The identified potential magnetite DSO of 5 Mt, complements the economics for the scoping study and the 18 million tonnes of hematite DSO allows MMS the opportunity for early production, and the company is focused on the delivery of this strategy.". Mr Phillips added that a NI43-101 Technical Report for the project will be lodged with SEDAR within 45 days.

**Notes**

*For the new resource update, the Company supplied Snowden with a new geological interpretation based on new surface mapping of contacts, logging of drill holes and 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.*

*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 6 samples and a maximum of 25 samples were used, and grades were interpolated into 25 x 25 x 10m parent cells.*

**Quality Assurance and Quality Control (QAQC):**

Intersections reported have been verified by the company's QAQC protocols. All samples from drill holes are prepared by Amdel and SGS Laboratories and pulverised to 90% passing 45 microns then analysed for the iron suite using XRF.

**QUALIFIED PERSON**

Mr. Andrew Spinks B.App.Sc, Grad.Dip (Mining), a member of AusIMM, and an independent 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.

Further information on Macarthur Minerals Limited and technical reports on the Lake Giles project can be found on the company's website [www.macartherminerals.com](http://www.macartherminerals.com) or [www.sedar.com](http://www.sedar.com)

## **ABOUT MACARTHUR MINERALS LIMITED (TSX-V:MMS)**

Macarthur Minerals Limited, is a Perth, Australia based resource development company that is currently focused on developing its Lake Giles Iron Ore project, located in the Yilgarn iron ore district in Western Australia. The Lake Giles project is located 110Km from rail with direct access to the Port of Esperance, Western Australia. The project has a resource of 1.3 billion tonnes of Magnetite mineralization that has been reported in accordance with National Instrument 43-101, and 18 million tonnes of potential Direct Shipping Ore (DSO) Goethite/Hematite at 55.5% Fe. Macarthur is currently completing a scoping study on the Magnetite project and DSO Hematite, both expected to be completed by year end 2010.

On behalf of the Board of Directors,  
**MACARTHUR MINERALS LIMITED**

*"Alan Phillips"*

Alan Phillips, President, Chairman & CEO

### **Corporate Relations**

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