



MIDLAND EXPLORATION AND JOGMEC'S AIRBORNE SURVEY REVEALS THE PRESENCE OF SEVERAL NEW RARE EARTH TARGETS ON THE YTTERBY PROJECT

Montreal, September 8, 2010. Midland Exploration Inc. ("Midland") (TSX-V: MD) is pleased to announce, in partnership with Japan Oil, Gas and Metals National Corporation ("JOGMEC") that several new promising rare earth elements ("REE") targets were identified following a 3,143 line kilometres magnetic and radiometric airborne survey recently completed on its Ytterby project. JOGMEC approved an additional \$200,000 budget over the initial first year commitment of \$1,000,000. A 300 kilometres ground magnetic and radiometric survey was immediately initiated to better evaluate the best airborne REE targets identified.

Several strong airborne radiometric anomalies were outlined on Ytterby 1, 2 and 3 respectively. Ytterby 1 claim block encompasses more than 11 anomalies that have strike extents varying from 1000 metres to 3500 metres. Ytterby 2 block is marked, in its central part, by a 4.5 square kilometres prominent discrete northwest trending anomalies which mimics a magnetic low. Ytterby 3 encompasses 8 airborne anomalies that have strike extents varying from 800 metres to 2500 metres and up to 1500 metres wide. The latest anomalies are found within an area also manifests by a 9-km diameter magnetic low. Combination of strong radiometric anomalies within circular magnetic low are common airborne geophysical features associated with known REE alkaline deposits found elsewhere in the world.

A ground prospection and mapping program is currently in progress over these newly identified airborne REE targets. Markedly anomalous scintillator and spectrometer readings were noted on each of the claim blocks. More than 500 rock samples were recently collected and sent for analysis. Results are pending.

The project, currently held 100% by Midland, consists of 1885 claims covering a surface area of about 659 square kilometres. The Ytterby project comprises 4 distinct claim blocks located between 200 to 230 kilometres east and northeast of Schefferville, Québec. Midland's Ytterby 1 main claim block is strategically well located 5 kilometres south of the Strange Lake REE deposit and the B-Zone REE new deposit discovered by Quest Rare Metals Ltd. Diamond drilling completed in 2009 defined a 43-101 Inferred Resource of 114.8 million tonnes grading 0.999% TREO, 1.973% zirconium oxide, 0.208% niobium pentoxide, 0.053% hafnium oxide and 0.082% beryllium oxide (*See press release dated April 7, 2010*). A peralkaline granitic pluton hosts the B-Zone and the Strange Lake REE deposits (historical resource estimate, pre-National Instrument 43-101 with 52 million tonnes @ 3.25% ZrO₂, 0.56% Nb₂O₅, 0.66% Y₂O₃, 0.12% BeO and 1.30% TREO).

Midland and JOGMEC are very encouraged by these results that could conduct to new REE discoveries within the Strange Lake district area which may soon emerge as a future world class source of rare earth metals.

Terms of the Exploration Agreement

JOGMEC has the option to acquire 50% interest in the Ytterby project prior to March 31, 2012 by funding \$2,500,000 in exploration expenditures including \$1,000,000 in work expenditures during the first year. Midland will be operator as long as it will hold an interest equal to or higher than 50% in the project. JOGMEC also has the right to transfer its interests in the Ytterby project, in whole or in part, to one or more Japanese companies or a consortium of Japanese companies.

About JOGMEC

JOGMEC was established in February, 2004, following the integration of the former Japan National Oil Corporation (JNOC) and Metal Mining Agency of Japan (MMAJ). It is a corporation under the Japanese Ministry of Economy, Trade and Industry (METI), with a mandate of investing in developing minerals projects worldwide to help secure a stable supply of natural resources for Japanese industry.

About Midland

Midland targets the excellent mineral potential and the favourable investment climate of Quebec to make the discovery of new world-class deposits of gold, base metals and REE. Midland is proud to count on reputable partners such as Japan Oil, Gas and Metals National Corporation, Agnico-Eagle Mines Limited, Osisko Mining Corporation, North American Palladium Limited, Zincore Metals Inc. and SOQUEM Inc. Midland prefers to work in partnership and intends to quickly conclude additional agreements in regard to newly acquired properties. Midland is currently evaluating new opportunities and other projects in order to increase the portfolio of the Company.

This press release was prepared by Gino Roger, registered engineer and Qualified Person as defined by NI 43-101. For further information, please consult Midland's website or contact:

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