



**MIDLAND EXPLORATION AND JOGMEC CONTINUE TO RECEIVE RARE EARTH ELEMENTS POSITIVE RESULTS ON THE YTTERBY PROJECT SOUTH OF STRANGE LAKE, QUEBEC**

Montreal, October 20, 2010. Midland Exploration Inc. (“**Midland**”) (TSX-V: **MD**) is pleased to provide an update, in partnership with Japan Oil, Gas and Metals National Corporation (“**JOGMEC**”) following the release of new significant assays results from the two new discoveries of rare earth elements (“**REE**”) enriched systems made recently on Ytterby 2 and Ytterby 3 properties located respectively 65 km and 100 km south of the Strange Lake – B-Zone REE project area.

Coming from all 4 properties held by Midland, 178 new assay results were added to the 292 previously released. On Ytterby 3, these new assays bring to 53, from 26, the number of new mineralized prospect areas with more than 1.0% total rare earth oxides (“**TREO**”). The results vary from 1.03% to 7.94% with a 2.87% average TREO. From this group, 19 samples averaging 4.95% TREO, have 2.37% cerium oxide ( $\text{Ce}_2\text{O}_3$ ), 1.23 % lanthanum oxide ( $\text{La}_2\text{O}_3$ ), 0.78 % neodymium oxide ( $\text{Nd}_2\text{O}_3$ ), 0.11 % yttrium oxide ( $\text{Y}_2\text{O}_3$ ), 0.24 % praseodymium oxide ( $\text{Pr}_2\text{O}_3$ ), 0.054 % gadolinium oxide ( $\text{Gd}_2\text{O}_3$ ) and 0.027% dysprosium oxide ( $\text{Dy}_2\text{O}_3$ ) in average. Most of these very rich samples come from the north end of the Ytterby 3 property where iron oxide pods and pegmatites, hosted in alkaline granite, have been outlined discontinuously over a collective surface of 1.75 square kilometres.

On Ytterby 2, the new assays bring to 19 the number of new mineralized prospect areas with TREO values varying from 0.3% to 18.0%. The heavy rare earth oxides (“**HREO**”) content represented 3.24% to 12.1% of the  $\text{TREO} + \text{Y}_2\text{O}_3$  but with these recent assays, a new area rich in HREO has been defined with 56% to 83% HREO of the  $\text{TREO} + \text{Y}_2\text{O}_3$ . Individual heavy rare earth elements analysis, among the most expensive, returned 0.036% dysprosium oxide ( $\text{Dy}_2\text{O}_3$ ), 0.035% ytterbium oxide ( $\text{Yb}_2\text{O}_3$ ) and 0.28% yttrium oxide ( $\text{Y}_2\text{O}_3$ ). Several other prospect areas have been found on Ytterby 2 and Ytterby 3 properties from which assays results are pending. More than 585 samples were collected during the 2010 summer field program and 470 assays results were released so far.

Data interpretation of the airborne and ground magnetic and radiometric surveys completed on Ytterby 2 and 3 is currently in progress to better evaluate the best REE targets identified. A second phase program of geological mapping and geochemical sampling that will be followed up by diamond drilling is currently being planned.

Plan views and table showing Midland’s new REE discoveries can be consulted by the following links:

To view Figure 1 - Ytterby Project Regional Location Map, please visit the following link:  
[http://media3.marketwire.com/docs/Figure1-Oct\\_19.pdf](http://media3.marketwire.com/docs/Figure1-Oct_19.pdf)

To view Figure 2 - Ytterby 3 Grab Sampling Results on Thorium Radiometric Map, please visit the following link: [http://media3.marketwire.com/docs/Figure2-Oct\\_19.pdf](http://media3.marketwire.com/docs/Figure2-Oct_19.pdf)

To view Figure 3 - Ytterby 2 Grab Sampling Results on Thorium Radiometric Map, please visit the following link: [http://media3.marketwire.com/docs/Figure3-Oct\\_19.pdf](http://media3.marketwire.com/docs/Figure3-Oct_19.pdf)

To view Table 1 - Selected Grab Sampling Results on Ytterby Project, please visit the following link: [http://media3.marketwire.com/docs/Tableau\\_1\\_Oct\\_19.pdf](http://media3.marketwire.com/docs/Tableau_1_Oct_19.pdf)

### **Quality Control (QA/QC)**

The Ytterby exploration program is supervised by Mr. Robert Banville, Eng., senior geologist for Midland Exploration and a Qualified Person as defined under National Instrument 43-101. Analyses were performed by Activation Laboratory of Ancaster, Ontario which has a strict internal QA/QC program which includes mineralized standards, blanks and duplicate samples.

### **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 Robert Banville, Eng., senior geologist for Midland Exploration and Qualified Person as defined by NI 43-101. For further information, please consult Midland's website or contact:

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*risks and uncertainties include those described in Midland's periodic reports including the annual report or in the filings made by Midland from time to time with securities regulatory authorities.*