



NEW STRATEGIC ACQUISITIONS FOR MIDLAND EAST OF THE DUPARQUET GOLD MINING CAMP

Montreal, August 24, 2010. **Midland Exploration Inc.** ("Midland") (TSX-V: MD) is pleased to announce the acquisition by staking of two new claim blocks with strong gold potential, located along the eastward extension of the Duparquet gold mining camp. These two new claim blocks, known as Bassignac and Highway, are wholly owned and respectively consist of 25 claims totalling 1,281 hectares and 7 claims covering about 211 hectares. These new strategic acquisitions are located only 25 kilometres north of Rouyn-Noranda, in the Abitibi region of Quebec.

The Highway block is the furthest to the west and is located about 12 kilometres from the Beattie and Donchester deposits, where resources are estimated at 2,095,389 gold ounces based on a cut-off grade of 1.0 g/t Au (*Source: 43-101 report published in October 2009 by Peter Bevan*). A major drilling program, by Osisko Mining Corporation in partnership with Clifton Star Resources, totalling 120,000 metres is currently underway on these deposits. Recently during this drilling program, a drill hole intersection returned 7.54 g/t Au over 25.2 metres (*Source: Osisko Mining Corporation press release dated August 5th, 2010*). During a recent field visit of the Highway property, Midland geologists confirmed the presence of a major east-west-trending fault zone subsidiary to the Destor-Porcupine Fault, which is located just 3.5 km further south. This structure marks the faulted contact between conglomerates of the Duparquet Group and volcanic rocks of the Deguisier Formation.

The Bassignac block is located just 6 kilometres further east, along the same structure but in a location where a few km-scale lens-shaped magnetic signatures, similar to the magnetic signature associated with gold-bearing syenite intrusions occurring in the Beattie-Donchester area in Duparquet, were identified.

A compilation of previous work conducted on the two blocks indicates the faulted contact, traced over more than 4 kilometres strike length, has never been tested by induced polarization geophysical surveys. Several gold showings and deposits are known along this structure to the west of Midland's claim blocks, such as the Central Duparquet No. 1 zone, estimated at 574,196 tonnes grading 5.1 g/t Au. Further east, the Central Duparquet No. 2 showing yielded drill results reaching 2.7 g/t Au over 7.6 metres, and the Jacques showing yielded a drill intersection grading 4.96 g/t Au over 3.3 metres (*Source: MRNF SIGEOM map sheet 32D11*).

Midland strongly believes these two new properties have an excellent potential to host porphyry-type gold mineralization proximal to a major east-west-trending fault zone subsidiary to the Destor-Porcupine Fault.

Plan views showing Midland's new gold strategic land position can be consulted by the following links:

To view Figure 1, please visit the following link:
http://media3.marketwire.com/docs/Figure_1_0824.pdf

To view Figure 2, please visit the following link:
http://media3.marketwire.com/docs/Figure_2_0824.pdf

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 Agnico-Eagle Mines Limited, Osisko Mining Corporation, North American Palladium Limited, Japan Oil, Gas and Metals National Corporation Zincore Metals Inc., and Soquem Inc. Midland prefers to work in partnership and intends to 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 Mario Masson, VP 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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