

MANICOUAGAN MINERALS INC.
Suite 501, 133 Richmond Street West
Toronto, Ontario
M5H 2L3
(416) 542-3980

News Release

**MANICOUAGAN MINERALS BEGINS INITIAL DIAMOND DRILL PROGRAM
ON PICKLE LAKE EAST PROPERTY**

TORONTO, June 16, 2010 – Manicouagan Minerals Inc. (TSX-V:MAM) announced today that it will commence diamond drilling this week on its Pickle Lake East Property located near Pickle Lake, Ontario.

The helicopter supported drill program will consist of a minimum of 1000 metres of diamond drilling designed to test selected targets along strike from the past producing Pickle Crow Mine property currently being evaluated by PC Gold Inc. Assays will be released as they become available.

In December 2009, Manicouagan completed an I.P. Resistivity Survey over the western portion of its Pickle Lake East Property where the Pickle Crow – Central Patricia Gold Mine trend crosses onto the Pickle Lake East Property.

The survey was successful in identifying nine significant anomaly trends. In addition, several isolated moderate to strong I.P. anomalies were also mapped. The depths of the identified I.P. anomalies are interpreted to be less than 15 metres from surface. (*See MAM Press Release dated March 9, 2010.*)

Joseph Baylis, Manicouagan's President and CEO, said, *"This is an important program for Manicouagan and represents the first drill campaign undertaken on our Pickle Lake East Property since we assembled our extensive land package. We have carefully chosen the most prospective targets based on our IP work. We look forward to receiving assay results and these will guide the planning of the next phases of our 2010 work program."*

A sketch showing the location of the Pickle Lake East Property and the IP anomalies is attached and is also available at www.manicouaganminerals.com.

Based on a review of public documents available in the provincial assessment files, none of these priority anomalies have been drill tested in the past. This initial drill program represents the first phase of Manicouagan's 2010 field programs on its Pickle Lake Gold properties.

Manicouagan currently holds directly or has under option approximately 132 square kilometres within the Pickle Lake Greenstone Belt. The Pickle Lake Greenstone Belt, is part of the prolific Uchi Geological Sub-province which hosts the Pickle Lake, Red Lake and Rice Lake gold camps. Production to date, from these camps has amounted to over 25 million ounces of gold. The Pickle Lake

Greenstone Belt includes four past producing mines: Pickle Crow (1,450,000 ounces grading 16.1 grams per tonne gold), Central Patricia (650,000 ounces grading 12.0 grams per tonne gold), Golden Patricia (450,000 ounces grading 19.9 grams per tonne gold) and Dona Lake (200,000 ounces grading 8.6 grams per tonne gold).

Manicouagan has earned a 51 percent interest in the Pickle Lake East Property. Pursuant to an option agreement with Trillium North Minerals, Manicouagan can increase its interest to seventy percent in this property and the Dorothy-Dobie Lake and Kasagagiminis gold properties by incurring the next \$1.5 million of exploration expenditures on the properties. (*See MAM Press Release dated April 15, 2010.*)

A sketch showing the location of the properties is available at www.manicouaganminerals.com.

Manicouagan continues to consult with the Cat Lake, Mishkeegogamang and Slate Falls First Nations with respect to its activities in the Pickle Lake Area.

Manicouagan's exploration programs in the Pickle Lake area are being carried out under the direct supervision of Bruce W. Mackie, P.Geo., a consulting geologist for Manicouagan Minerals. Bruce W. Mackie, P.Geo., has reviewed and verified the technical content of this press release on behalf of Manicouagan Minerals and is a "Qualified Person" as defined in National Instrument 43-101.

About Manicouagan

Manicouagan Minerals Inc. is a Canadian based exploration company focused on advancing its gold projects in the Pickle Lake Gold Belt, Ontario. Manicouagan also has a pipeline of commodity projects including the Brabant Lake Zinc deposit in Saskatchewan, together with the Mouchalagane Nickel/Copper/PGE project and the HPM/Forgues Nickel/Copper/Cobalt project, both in Quebec.

Additional information about Manicouagan and its exploration projects can be found at www.manicouaganminerals.com.

Une traduction française de ce communiqué de presse est disponible à www.manicouaganminerals.com.

For further information contact:

Joseph Baylis, President and Chief Executive Officer,
Manicouagan Minerals Inc.

(416) 542-3980

or

Andreas Curkovic, Investor Relations - (416) 577-9927

or

investorrelations@manicouaganminerals.com

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

All statements other than statements of historical fact, included in this release, including, without limitation, statements regarding potential mineralization and reserves, exploration results and future plans and objectives of the Company, are forward-looking statements that involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors that could cause actual results to differ materially from the Company's expectations are exploration risks detailed herein and from time to time in the filings made by the Company with securities regulators.

