



Quest Rare Minerals Ltd.

Quest Rare Minerals Mobilizes Crews to Commence Strange Lake and Misery Lake Programs, Quebec

Highlights:

- 2,500 m exploration drilling program targeting four new areas of high-grade surface mineralization outside of the B-Zone that may provide additional, higher-grade pegmatite-style resources as currently defined at the B-Zone
- 1,000 m drilling program by AMEC for geotechnical monitoring holes for use in the Pre-Feasibility study currently underway
- 5,000 m of drilling at the Misery Lake project to expand on mineralization returned from 2011 diamond drilling program where hole ML11010 returned up to 1.46 m grading 1.75% TREO at the edge of a known geophysical target
- Metallurgical and beneficiation testing of B-Zone mineralization continues to show good progress and is on target to transition to mini-pilot plant testing in Q4 2012. The flow sheet for separation of niobium from titanium has been achieved and is currently being tested to confirm reagent recovery and reuse options.

TORONTO, ONTARIO--(Marketwire - July 31, 2012) - Quest Rare Minerals Ltd. (TSX:QRM)(NYSE MKT:QRM)(NYSE Amex:QRM) is pleased to announce that it has resumed exploration and pre-feasibility study ("PFS") work at its Strange Lake project as well as field exploration activities at its Misery Lake project as part of its 2012 exploration programs. Metallurgical work to the B-Zone (*see* Press Release: May 15, 2012) continues to proceed as planned and is showing good progress to delivering an optimized flow sheet for the deposit.

Strange Lake Exploration Project

At the Strange Lake Project, Quest will be completing 1) exploration drilling in four areas of the property, 2) geophysical surveys over the B Zone and its surroundings and 3) technical and logistical support for the PFS team. Two diamond drill rigs from Boreal Drilling of Val d'Or, Québec are being used for this program. Both drill rigs are currently on site and drilling commenced on July 23.

A 2,500 m exploration drilling program is planned to drill test four target areas: 1) to test the southwestern extension of the B Zone deposit where high grade pegmatite-hosted

mineralization was intersected returning **2.44% total rare earth oxide (TREO) over 8.2 m** (Hole BZ11205) and **2.77% TREO over 11.6 m** (Hole BZ11240, Figure 1); 2) the pegmatites intersected in historical hole LB-23 (historical Iron Ore Company (IOC) drill hole, Figure 2), henceforth called the SLW Zone; 3) the Québec side of the Main Zone deposit where near surface rare earth element (REE) mineralized pegmatite was intersected by Quest in 2009 (Figure 3), returning up to **1.96 % TREO over 11.0 m** (Hole SL09002); and 4) additional high grade mineralized pegmatite south of the B-Zone, henceforth called the A-Zone. Quest, with the assistance of Abitibi Geophysics Inc. of Val d'Or, Quebec, will conduct a geophysical investigation of the B Zone (Figure 4) to define geophysical signatures of the deposit that can be applied to the identification of new REE deposits at Strange Lake and elsewhere. An initial orientation survey will be conducted over the B Zone deposit and if results are positive the survey will be expanded to surrounding regions of the Strange Lake Alkali Complex.

Strange Lake B-Zone Pre-Feasibility Study Work

A 1,000 m drilling program has been planned by AMEC of Mississauga, Ontario to drill geomechanical and geotechnical monitoring holes for the PFS. These holes will be drilled within the proposed pit shell and along its northern edge. This drilling program is expected to be completed by the end of August 2012. In addition, a 150 m decommissioning drilling program is also planned, south of the B Zone Deposit, to assist with the location of the potential mine's infrastructure.

Pre-feasibility field work on the B-Zone project commenced in July 2012 and is being executed by a seasoned team of engineers and technicians. AECOM of Montreal, Quebec is currently conducting environmental and off-site infrastructure surveys. All field work is expected to be completed by the end of September 2012.

Metallurgical Investigation Progress Report

On May 15, 2012, Quest reported that work at Process Research Ortech Inc., which commenced in the first quarter of 2012, showed that significant progress in the separation of the various metal oxide components through solvent extraction (SX) of B-Zone mineralization had been achieved. Flow sheets to achieve the separation of zirconium, niobium, uranium, thorium, and REE concentrate were established. Quest reported that bench scale work had confirmed these flow sheets to the extent that a zirconium hydroxide product and a REE+Y oxalate product had been produced. Uranium and thorium had also been successfully extracted from the circuit with the intention of producing an environmentally stable discharge product. Significant work has been carried out on niobium and titanium separation since that time. Quest is pleased to report that a solvent extraction method for the separation of niobium and titanium has been identified. Economic optimization on the reuse of reagent is currently being investigated. Each of the separation streams will be confirmed by Quest's mini-pilot plant work which is targeted to commence in Q4 2012.

Flotation test work aimed at reducing the overall mass of ore sent to the leaching stage by rejecting barren minerals has been conducted over the last two months. Two different flotation reagents show great promise and although there are small losses of economically relevant metals, there is important sample mass reduction which should lead to reduced capital and operating costs for the envisaged mining operation. An economic assessment

will be carried out following completion of the floatation test program in August and this will be incorporated if economic benefits are indicated.

Misery Lake Exploration Project

At the Misery Lake Project an all-season 20-man new camp is near completion and field crews are expected to mobilize to the area soon. The diamond drill rigs and crews will be mobilized on site in early August. The drilling program is anticipated to last two months with one drill.

In 2011, several boreholes showed promising new REE mineralization, particularly in holes ML11009 (**1.61% TREO over 0.35 m, Figure 5**) and ML11010 (**6.77% TREO over 0.44 m and 1.75% TREO over 1.46 m, Figure 6**), located near the core zone of the main Misery Lake layered syenite intrusion. A 5,000 m drilling program has been planned and will drill test the surroundings of these holes and will also drill test the two southernmost intrusions and any subsequent geophysical targets on the property.

Quest plans to continue prospecting magnetic and radiometric anomalies throughout the Misery Lake project area. In 2012, more resources will be directed towards the two southern magnetic features, which although less well-defined, are spatially associated with REE-mineralized float and outcrops of similar composition to the host rocks in the main Misery Lake magnetic ring feature. If mapping and prospecting are successful, Quest will drill-test these two magnetic ring features to identify subsurface REE mineralization.

Quest received a proposal from Abitibi Geophysics Inc. of Val d'Or, Quebec to conduct magnetic, radiometric and IP ground geophysical surveys at Misery Lake. Any positive results from these surveys will be evaluated by field crews and verified by diamond drilling.

Quality Control

Mr. Pierre Guay, P. Geo., is the qualified person on the Strange Lake and Misery Lake Project exploration under National Instrument 43-101 and is responsible for this news release.

About Quest Rare Minerals

Quest Rare Minerals Ltd. is a Canadian-based exploration company focused on the identification and discovery of new and significant Rare Earth deposit opportunities. Quest is publicly listed on the TSX and NYSE MKT as "QRM" and is led by a highly-respected management and technical team with a proven mine finding track record. Quest is currently advancing several high-potential projects in Canada's premier exploration areas: the Strange Lake and the Misery Lake areas of northeastern Quebec. Quest's 2009 exploration led to the discovery of a significant new Rare Earth metal deposit, the B-Zone, on its Strange Lake property in North Eastern Quebec. Quest recently filed a 43-101 Indicated and Inferred Resource Estimate on the B-Zone deposit and has completed a Preliminary Economic Assessment (PEA) for the deposit. In addition, Quest announced the discovery of an important new area of REE mineralization on its Misery Lake project, approximately 120 km south of Strange Lake project. Quest continues to pursue high-value project opportunities throughout North America. As a result of a marketed equity financing completed in October 2010, Quest has a strong working capital position of \$41.7 million and is able to execute on its project intentions. This is expected to be sufficient to advance

Quest's plans of completing PFS and bankable feasibility studies of the B-Zone REE deposit and to continue exploration on its other rare earth properties.

Forward-Looking Statements

This news release contains statements that may constitute "forward-looking information" or "forward-looking statements" within the meaning of applicable Canadian and U.S. securities legislation. Forward-looking information and statements may include, among others, statements regarding the future plans, costs, objectives or performance of Quest Rare Minerals Ltd. ("Quest"), or the assumptions underlying any of the foregoing. In this news release, words such as "may", "would", "could", "will", "likely", "believe", "expect", "anticipate", "intend", "plan", "estimate" and similar words and the negative form thereof are used to identify forward-looking statements. Forward-looking statements should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether, or the times at or by which, such future performance will be achieved. No assurance can be given that any events anticipated by the forward-looking information will transpire or occur, or if any of them do so, what benefits that Quest will derive. Forward-looking statements and information are based on information available at the time and/or management's good-faith belief with respect to future events and are subject to known or unknown risks, uncertainties, assumptions and other unpredictable factors, many of which are beyond Quest's control. These risks, uncertainties and assumptions include, but are not limited to, those described under "Risk Factors" in Quest's annual information form dated January 23, 2012, and under the heading "Risk Factors" in Quest's Management's Discussion and Analysis for the fiscal year ended October 31, 2011 and the quarter ended April 30, 2012, all of which are available on SEDAR at www.sedar.com and on EDGAR at www.sec.gov, and could cause actual events or results to differ materially from those projected in any forward-looking statements. Quest does not intend, nor does Quest undertake any obligation, to update or revise any forward-looking information or statements contained in this news release to reflect subsequent information, events or circumstances or otherwise, except if required by applicable laws.

*To view the map associated with this press release, "**Figure 1 - B-Zone Southwest Extension Drilling Map, Strange Lake Project, Québec**," please visit the following link: http://media3.marketwire.com/docs/ORM3107_figure1.pdf.*

*To view the map associated with this press release, "**Figure 2 - SLW Target Area Drilling Map, Strange Lake Project, Québec**," please visit the following link: http://media3.marketwire.com/docs/ORM3107_figure2.pdf.*

*To view the map associated with this press release, "**Figure 3 - Main Zone Drilling Map, Strange Lake Project, Québec**," please visit the following link: http://media3.marketwire.com/docs/ORM3107_figure3.pdf.*

*To view the map associated with this press release, "**Figure 4 - Geophysical Survey Plan Map, Strange Lake Project, Québec**," please visit the following link: http://media3.marketwire.com/docs/ORM3107_figure4.pdf.*

*To view the map associated with this press release, "**Figure 5 - Central Area Drilling Location Map, Misery Lake Project, Québec**," please visit the following link: http://media3.marketwire.com/docs/ORM3107_figure5.pdf.*

To view the map associated with this press release, "**Figure 6 - North Central Drilling Location Map, Misery Lake Project, Québec,**" please visit the following link:
http://media3.marketwire.com/docs/ORM3107_figure6.pdf.

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