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## GREAT WESTERN MINERALS GROUP LAUNCHES DOUGLAS RIVER EXPLORATION PROGRAM

**July 22, 2010 - Saskatoon, Canada.** Great Western Minerals Group Ltd. ("GWMG") announces it has launched its Rare Earth Elements ("REE") exploration program at its Douglas River property located in the Athabasca Basin of northern Saskatchewan.

The focus of this program is to expand the known showings which were originally discovered in 1979 during the course of uranium exploration. At that time, because of the discovery of anomalous yttrium and heavy Rare Earth ("HREE") values including dysprosium, reconnaissance geological mapping, radiometric prospecting and further sampling of existing trenches was undertaken throughout the area.

The HREE-enriched showing is a mineralized outcrop of the Otherside River Formation within the Athabasca Group. The outcrop consists of fine to medium grained, hematitic sandstone, with little interstitial clay. Beige to pink laminated to thinly bedded sandstone, with pebble units separating the homogenous laminae, is also present. Bedding in the sandstone has a strike of 98° to 100° and a dip of 6° to 10°NE.

The mineralization is present as narrow, stratabound mineralized lenses of very fine grained xenotime confined to an area bounded by prominent fractures. The mineralized lenses are parallel to bedding. Trench and surface samples (see news release of October 9, 2009) gave grades of up to 8.75% total Rare Earth oxide ("TREO") including dysprosium oxide values of up to 1.15%. The majority of samples yielded over 99% HREE as a proportion of TREO.

The current program is to be executed through detailed geological mapping and geochemical sampling in order to trace the known mineralization. In addition, regional prospecting, mapping and geochemical sampling are intended to identify new zones of mineralization.

As part of the current exploration program, the company has retained Dr. Charlie Harper and Dr. Colin Dunn as advisors in designing specific aspects of the exploration program. Both Dr. Harper and Dr. Dunn have many years experience working in the Athabasca basin.

It is expected that this exploration program will result in the selection of drill targets which would be tested in the next phase of work.

The heavy Rare Earth elements are critical to applications like permanent magnets. In particular, dysprosium is required to give a neodymium-iron-boron permanent magnet the ability to perform under high temperatures such as those experienced under the hood of a hybrid vehicle where the permanent magnet electric motor resides. Although still at a very early stage, Management feels that the Douglas River has the potential to be an important source of dysprosium for the permanent magnet industry.

GWMG is a significant supplier of permanent magnet alloys through its subsidiaries Less Common Metals Limited and Great Western Technologies Inc.

The disclosure relating to any potential quantity or grade of minerals is conceptual in nature, there has been insufficient exploration to define a "mineral resource" (as that term is defined in National Instrument 43-101 - Standards for Disclosure for Mineral Projects) and it is uncertain if further exploration will result in any such target being delineated as a "mineral resource". All disclosure relating to potential quantity and grade of the Douglas River project has been determined by publicly available data and the Company's exploration and sampling activities. No independent verification of such publicly available summary information has been undertaken by the Company or the "Qualified Persons" referred to in this news release.

John Pearson, MSc, PGeo, Vice-President Exploration for GWMG, is the qualified person responsible for reviewing the contents of this news release.

Jim Engdahl



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## President and CEO

Great Western Minerals Group Ltd. is an integrated Rare Earths producer. Its specialty alloys are used in the battery, magnet and aerospace industries. Produced at the Company's wholly-owned subsidiaries Less Common Metals Limited in Birkenhead, UK and Great Western Technologies Inc. in Troy, Michigan, these alloys contain aluminum, nickel, cobalt and Rare Earth Elements. As part of the Company's vertical integration strategy, GWMG holds an option with respect to the former Rare Earths producing Steenkampskraal mine in South Africa as well as seven Rare Earth exploration and development properties in North America.

For further information, please contact Dwight Percy, Manager of Investor Relations at (306) 659-4500. Email inquiries should be made to [info@gwmg.ca](mailto:info@gwmg.ca). The Company's website is at [www.gwmg.ca](http://www.gwmg.ca). Inquiries by direct mail should be addressed to Great Western Minerals Group Ltd., 226 Cardinal Crescent, Saskatoon, SK S7L 6H8.

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