

GREAT WESTERN MINERALS GROUP LTD

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FIRST PHASE OF EXPLORATION COMPLETED ON BENJAMIN RIVER RARE EARTH PROJECT

June 1, 2009 - Saskatoon, Saskatchewan. Great Western Minerals Group Ltd. (“GWMG” or the “Company”) is pleased to report that the first phase of exploration work is complete on its Benjamin River rare earth project in the province of New Brunswick.

The program consisted of 36 line-km of ground magnetic and VLF-EM geophysical surveys on 50m line spacing. The results were successful in delineating a geophysical anomaly approximately 1,200m long and up to 200m wide. The anomaly coincides with known exposures of an apatite-diopside-magnetite vein that previous surface sampling has confirmed contains significant rare earth mineralization in addition to phosphate and iron.

The Benjamin River property consists of 491 mineral claims covering approximately 10,380 hectares. The location of the project, near Bathurst, and the excellent infrastructure including rail, highways, power and ports enhances the economic aspects of the property.

As reported in the Company’s news release dated January 7, 2009, assays from previous sampling of the vein material varied from 0.6% total rare earth oxide (“TREO”) to 1.0 % TREO. The mineralization is significantly enriched in the “heavy” rare earth elements (“HREO”, europium through lutetium) plus yttrium at 30% by proportion. The HREO are high value products that are critical to the manufacture of high-temperature magnets used in electric motors for a wide range of applications including hybrid vehicles and for phosphors used in LCD and plasma flat panel displays. In addition, the HREO are forecast to be in very short supply by 2013. Phosphate and iron oxide grades are also significant with samples assaying up to 18% P₂O₅ and 39% Fe₂O₃.

Under the terms of an option agreement announced on January 7, 2009, GWMG can earn a 100% interest in the property by a series of cash payments, share issuances, and the reservation of a 2% net smelter return royalty to the vendor.

Jim Engdahl, President and CEO of Great Western Minerals Group said “It is important that we continue work on our heavy rare earth-enriched projects while advancing our more advanced core rare earth projects. These are the elements that are most likely to be in short supply and are absolutely critical to many applications on which the world is becoming dependent”.

Further exploration work on the property is planned and will be announced when underway.

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

Jim Engdahl
President

About Great Western Minerals Group Ltd.

Great Western Minerals Group Ltd. is a Canadian-based company exploring for, and developing, strategic metal resources in North America and South Africa. Pursuing a vertically-integrated business model, the Company's wholly-owned subsidiaries of Less Common Metals Limited located in Birkenhead UK, and Great Western Technologies Inc., located in Troy, Michigan, produce a variety of specialty alloys for use in the battery, magnet and aerospace industries. These "designer" alloys include those containing aluminum, copper, nickel, cobalt and the rare earth elements.

For further information, please contact Ron Malashewski, Manager of Investor Relations at (306) 659-4516. Email inquiries should be made to info@gwmg.ca and the company website is located at www.gwmg.ca. Inquiries by direct mail should be addressed to Great Western Minerals Group Ltd., 226 Cardinal Crescent, Saskatoon, SK S7L 6H8.

Cautionary Statement on Forward-Looking Information: The statements made in this News Release may contain certain forward-looking statements. Actual events or results may differ from the Company's expectations. Certain risk factors may also affect the actual results achieved by the Company.

The TSX Venture Exchange has not reviewed and does not accept responsibility for the adequacy or accuracy of this news release.