

# PacMag Metals Limited

## ASX ANNOUNCEMENT

### SENTINEL PROJECT – HEAP LEACH POTENTIAL

#### ASX:PMH

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#### SUMMARY

19<sup>th</sup> August 2009

- **Positive column leach test result of near 100% uranium recovery for Church Deposit raw lignite mineralisation, without the need for pre-roasting.**
- **Leach test indicates potential (subject to additional metallurgical testwork) for the Church uranium mineralisation to be exploited by heap leaching of raw lignite ore.**
- **Potential to lower operating costs and significantly reduce project capital requirements to less than US\$20 million.**

The Directors of PacMag Metals Limited ("PacMag") are pleased to report that a single column leach metallurgical test has returned very positive results for the potential recovery of uranium and molybdenum from the Company's Church uranium germanium, molybdenum deposit in North Dakota, USA via heap leaching. The Directors wish to caution investors that this initial single leach test may not be representative of the metallurgical performance of the mineralisation as a whole and that the sample was from a single drill hole and is therefore not necessarily representative of the overall deposit. Notwithstanding this caveat the acid leach result on raw wet lignite ore is encouraging and has prompted immediate additional column leach metallurgical testwork.

An initial estimate of the potential capital requirement for a 250,000 tonne per annum heap leach is US\$19.7 million which is significantly less than that which would be required for a drying-roasting-leaching processing facility as previously outlined in the scoping study results released to the ASX on the 12 August 2009, which envisaged capital costs in the range of US\$63 to \$105 million.

The Church Deposit was the first area drill tested within the Sentinel Project, and represents only a small portion of the total prospective project area. The Church area has become a test area to assess the continuity, grade and metallurgical characteristics of the uranium, molybdenum, germanium mineralisation hosted within regionally continuous lignite seams.

Mining in the late 1960's from a small open pit (now rehabilitated) that occurs within the Church lease is reported as producing approximately 40,000 tons of ore grading 0.175% U<sub>3</sub>O<sub>8</sub> from near surface. This open pit and others within the district are all near surface, rarely exceeding a depth of 15 metres. Furthermore, a 40 ton bulk sample taken approximately 1km north-west of the open pit located on PacMag's tenure, returned an average grade of 0.13% U<sub>3</sub>O<sub>8</sub>. Mining in the district ceased in the late 1960's when U<sub>3</sub>O<sub>8</sub> was at \$7 per pound. The recovery of molybdenum and germanium was not reported.

Resource drilling by the Company has shown that the mineralisation in the district is continuous over mineable widths and lengths. An initial insitu Inferred Resource for the Church Deposit was previously reported to the ASX on the 12 August 2009:

Cut-off Grade	Wet Tonnes	Dry Tonnes	U <sub>3</sub> O <sub>8</sub> (%)	MoO <sub>3</sub> (%)
50 ppm U <sub>3</sub> O <sub>8</sub>	3,439,000	2,353,000	0.0165	0.0221
200ppm U <sub>3</sub> O <sub>8</sub>	841,000	580,000	0.035	0.039

The Company believes that there is considerable upside in both grade and tonnes reported as the initial Resource estimate involved a conservative approach of inserting half below detection grades (0.0005% U<sub>3</sub>O<sub>8</sub>) for all un-assayed portions of the host lignite unit (601 of 1279 composite samples), resulting in a significant reduction in average resource composite grades (by 46% for uranium).

The uranium and molybdenum resources and the Exploration Targets are reported in accordance with the JORC code. Upon further drill testing and evaluation the Exploration Target may be upgraded to resource status, but until that time the Exploration Targets remain conceptual in nature.

Previous metallurgical testwork by the Company has successfully demonstrated that the dried and calcined mineralisation is amenable to acid and alkaline leaching, with high metal recoveries (97% U<sub>3</sub>O<sub>8</sub>, 70% MoO<sub>3</sub>, 66% Ge). The drying and calcining process beneficiates (upgrades) the mineralisation by an average of 76%, reducing the tonnes of ore to be leached to one fifth from that mined. Furthermore, initial scoping level financial modelling indicates a conceptual project that is operating cash flow positive under a range of development scenarios.

Future activities will now focus on additional metallurgical testwork, along with ongoing evaluation of the Company's surrounding land holdings, where numerous high-grade surface samples have indicated strong potential for additional resources to be defined in the district such as results up to 0.2% U<sub>3</sub>O<sub>8</sub> and 0.62% MoO<sub>3</sub> reported a further 5km and 10km north of the Church Deposit respectively.

The Company has ascribed an Exploration Target for its regional landholdings of between 3 to 6 million dry tonnes at grades of 0.05% to 0.1% U<sub>3</sub>O<sub>8</sub> and 0.05% to 0.1% MoO<sub>3</sub> (5 – 10 million pounds U<sub>3</sub>O<sub>8</sub>), with 6 – 18 million tonnes of germanium rich lignite at grades of 65 to 100 g/t GeO<sub>2</sub> (450 – 1350 tonnes GeO<sub>2</sub>).

The Company is looking to secure a development partner by the end of the year to accelerate the assessment of the Sentinel project.

The metallurgical testwork and process design work was undertaken by J. E. Litz and Associates of Colorado, Metallurgical and Chemical Processing Consulting Engineers, who have over 50 years experience in mineral, chemical and related industries and have extensive uranium, germanium and molybdenum extraction experience, including from lignites.

*\* The term "Exploration Target" should not be misunderstood or misconstrued as an estimate of Mineral Resources and Reserves as defined by the JORC Code (2004), and therefore the terms have not been used in this context. Exploration Targets are conceptual in nature, and it is uncertain if further exploration or feasibility study will result in the determination of a Mineral Resource or Mining Reserve.*

*The information in this ASX Release that relates to Exploration Results, Minerals Resources or Ore Reserves, as those terms are as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserve", is based on information compiled by Mr Michael Clifford and Mr James Farrell. Mr Clifford is a Member of the Australian Institute of Geoscientists and a full time employee of the Company, whilst Mr James Farrell is a Member of the Australian Institute of Mining and Metallurgy, and a consultant to the Company. Mr Farrell has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserve". Mr Clifford and Mr Farrell consent to the inclusion in this ASX Release of the matters based on their information in the form and context in which it appears.*

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**Michael Clifford**  
**Director**

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**ABOUT PACMAG (ASX:PMH)**

*PacMag is an Australian-based exploration company focused on its advanced copper-molybdenum-gold assets at Ann Mason in the USA as well as its advanced Sentinel uranium-germanium-molybdenum project located in North Dakota, USA.*

*Ann Mason boasts a mineral resource of 810 million tonnes @ 0.4% copper, 0.004% molybdenum (7.1 billion pounds of contained copper metal). PacMag also holds interests in other less advanced copper projects in Australia.*