

May 10, 2012

TSXV: UAX OTCQX: ATURF

ATHABASCA URANIUM TO PERFORM SEMM SURVEY AT KEEFE LAKE

Athabasca Uranium Inc. ("Athabasca" or the "Company") is pleased to announce the engagement of SEMM Logging Inc. to perform a state-of-the-art downhole geophysical survey at the Company's Keefe Lake Uranium Project. The proposed geophysical survey will consist of a suite of logs, including triple receiver full-wave sonic, spectral gamma, optical televiewer, dual induction, focused resistivity and uranium content, and will provide data to assist the Company in building a comprehensive sub-surface model of Keefe Lake. The primary inspection hole is AU2012-08, which was drilled to a depth of 552 meters.

Additionally, the Company has re-engaged the University of Saskatchewan Seismology Department, under the direction of Zoltan Hajnal, PhD, P.Geoph to further analyze and interpret all drill holes from the Keefe Lake drill programs (November 2011 and April 2012) together with all available surface geological and geophysical data from the immediate region of boreholes, including data derived from the current SEMM survey. The culmination of the interpretation will result in comprehensive 3D modeling of the Keefe Lake Alteration Zone and recommendations for the Company's next phase of drilling.

SEMM's sonic borehole survey will be of particular interest to the Company's seismic investigation, as it measures the response of different rocks at depth to acoustic wave vibrations. The integration of this data with the surface seismic data (which examines responses over a larger area and in time) is highly effective at establishing direct regional and depth detection of rock types, as well as providing indications of alterations and fractures, associated with specific rock types. The combinations of these properties are potential indicators of mineralization.

On the commencement of the SEMM survey, Gil Schneider, President commented, "The value of the surface seismic survey and subsequent interpretation by Dr. Hajnal has exceeded all expectations. With the first drill hole at Keefe Lake, we encountered massive alteration and uranium mineralization. Downhole geophysics should further enhance our resolution and accordingly increase our chances of making an early discovery."

About S.E.M.M. Logging Inc.

SEMM Logging specializes in electric wireline logging and borehole geophysics for numerous applications in the mining, oil & gas, hydrogeological and geothermal industries, utilizing ISO 9001-certified state-of-the-art technology. Headquartered in France with subsidiaries throughout Africa and Canada, SEMM's client list includes Goviex, BRGM, MagIndustries, BHP Billiton and Tata Steel.

About Athabasca Uranium

Athabasca Uranium Inc. is a uranium exploration and development company exploring an aggregate of over 60,000 hectares strategically located in the uranium-rich Athabasca Basin region of northeast Saskatchewan. The Company's stated vision is to explore the region using leading-edge technology to become a world-class uranium mining company. Additional information on Athabasca Uranium and its vision is available on the Company's website at <u>www.athabascauranium.com</u>.

ON BEHALF OF THE BOARD OF DIRECTORS

"Gil Schneider"

Gil Schneider, President & CEO

For information, please contact the Company:

Toll-Free: (866) 869-8072

E-mail: info@athabascauranium.com

FORWARD LOOKING STATEMENTS: This press release may contain forward-looking statements. Forwardlooking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects", "plans", "anticipates", "believes", "intends", "estimates", "projects", "potential" and similar expressions, or that events or conditions "will", "would", "may", "could" or "should" occur. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results may differ materially from those in forward looking statements. Forward-looking statements are based on the beliefs, estimates and opinions of the Company's management on the date such statements were made. The Company expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.

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