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## **ATHABASCA URANIUM COMPLETES WINTER DRILLING PROGRAM**

Athabasca Uranium Inc. is pleased to report the completion of its 2011 diamond drilling program at the Keefe Lake Uranium Project in the Athabasca Basin region of Saskatchewan. Five holes (1,645 meters total) were completed in November and December 2011, with two holes encountering significantly anomalous alteration and another containing chloritic alteration at various intervals below the unconformity, a common feature found in the host rocks containing uranium mineralisation.

As previously reported in a release dated November 24, 2011, Hole AU4-1 intersected a large zone of strong and sustained alteration, beginning at approximately 172 metres true depth. The main alteration zone is a 25-metre thick interval of clay minerals at and below the unconformity; this overprints a 170-metre-plus multi-generational heeled quartz stockwork, overprinting an older mylonite. At depth, the basement mylonite contains granitic pegmatite veins up to 50 centimetres thick. Hole AU4-1, which bore at an 80-degree angle southeast toward a subtle subsurface EM anomaly identified through Aerotem, was stopped at 402 meters, still encountering pronounced silicification and fracturing. These features are significant in that they are commonly found in the vicinity of Archean/Wollaston regional geological/structural interfaces which are often host settings to the rich Athabasca uranium deposits.

Hole AU13-4, located approximately 500 meters SW of Hole AU4-1, encountered the alteration zone at 175 meters, approximately 4 meters above the unconformity, which was sustained for another 67 meters. Moderately bleached core and weak to moderate fracturing was pervasive and continued to approximately 242 meters. In addition, Hole RZ-X, 50 meters to the south of AU4-1, encountered several bands of chloritic clays below 193 meters. The presence of chlorite is of interest as specific clay minerals, such as illite and chlorite, have been observed to form alteration halos around Athabasca Basin deposits, such as at McArthur River. Samples of interest have been shipped for chemical analysis and results should be available in the near term. The Company will be examining core to determine the nature of the alteration and for the presence of pathfinder minerals/clays.

While the alteration in AU13-4 was not as pronounced and persistent as AU4-1, it was significant enough to indicate a “zone” of alteration, associated with a northeast-trending local fault system, identified through seismic and airborne surveys. Holes to the north of AU4-1 did not encounter the alteration zone, which the seismic interpretation shows to be subject to a series of faults and folds that converge at the northern edge of Keefe Lake. Core from holes AU4-1 and AU13-4 both display dramatic bleaching above and below the unconformity, presumably caused by the ingress of mineral-rich fluids. While no significant gamma radiation was encountered (readings ranged from nominal to 215 cps) this does not rule out the possibility of uranium mineralization existing within the Keefe Lake Alteration Zone; gamma emissions are easily absorbed by host rocks and mineralized bodies may be undetectable by gamma probing if missed by only a few meters.

In addition, down-hole geological data is being re-analyzed to recalibrate and refine drilling targets. The Company intends to resume its program in the New Year, to test the Keefe Lake Alteration Zone and other targets defined by its multidisciplinary team. Drilling is also planned at Volhoffer Lake, immediately to the south of Keefe Lake.

Gil Schneider, President, commented “With three of five holes warranting analysis and follow-up, the Company is pleased with the preliminary results of the winter program. Taken together, holes AU4-1 and AU13-4 clearly

define a 500-meter zone of intense alteration, striking to the northeast. We intend to vigorously test and investigate the Keefe Lake Alteration Zone in the early part of the New Year.”

Dr. Peter Born, PGeo, Athabasca Uranium’s qualified person, is responsible for the geological content of this news release.

*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 [www.athabascauranium.com](http://www.athabascauranium.com).

ON BEHALF OF THE BOARD OF DIRECTORS

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