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ATHABASCA URANIUM RE-ASSAYS & EXPANDS PHASE 1 URANIUM ZONE, COMPLETES KEEFE K-1 DRILLING

Athabasca Uranium Inc. (“Athabasca” or the “Company”) is pleased to announce that additional drill core from Hole AU 4-1 has been sampled and analyzed. Three additional samples were collected continuously below the 155 ppm sample (previously reported on March 28, 2012) and revealed a weighted average of 112ppm U* over 2 metres, between 400-402 metres, including a sample that returned 169 ppm U* over 0.66 metres. The mineralized section is associated with a sheared/fractured granitic pegmatite unit that lies at depth in the Keefe Lake Alteration Zone.

Regarding the assay results, Gil Schneider, President commented, “The discovery of additional uranium mineralization found within the Keefe Lake Alteration Zone is extremely encouraging for Athabasca Uranium. The basement alteration style encountered at Keefe Lake is widespread and seems to be unique, thus representing an excellent opportunity for continued research and discovery.”

Additionally, the Company reports that it has completed second phase of drilling at the Keefe Lake, which was a continuation of the 2011 drilling. The exploration program was designed to examine the limits of the Keefe Lake Alteration Zone, first discovered in Hole AU4-01, which exhibited the most pronounced mineral enrichment and alteration/silicification. In total, 1,648 metres in four holes was completed, expanding the drilling at Keefe Lake to a total of 3,293 metres in nine holes. Hole KEF-12-08 was drilled to a depth of 553 metres (374 metres beyond the unconformity) in order to expand on the results encountered at the bottom of Hole AU4-01. Basement alteration continued beyond the normal regolith alteration to the bottom of Hole KEF-12-08. All holes in the 2012 program encountered pronounced alteration, which consisted of quartzo-feldspathic gneiss with minor intervals of biotite gneiss and amphibolite.

The company intends on testing this deep hole with geophysical down-hole surveys in order to provide additional rock-property data to aid in continued interpretation of the high-definition 2D seismic survey. Samples with anomalous gamma radiation have been sent for optical mineralogy, geochemical and spectral analysis; results are expected in the near term.

The Company has moved the rig and is currently drilling its Keefe K-2 (Volhoffer Lake) targets, 7.7 kilometres to the south of Keefe K-1, and expects drilling to be completed within the next ten days. Targets at K-2 Volhoffer are interpreted as subsurface conductors, identified in a ground VLF EM survey (completed in 1980 by Uranerz Exploration and Mining) which reside in magnetic lows defined through a GEOTEM Mag/EM survey completed by International Uranium Corp., now Denison Mines. K-2 Volhoffer has the potential to host a shallow unconformity-style deposit, with basement depth of only approximately 160 metres. It is expected that the company will complete approximately 1,000 metres of drilling in 3-4 holes. Gil Schenider commented “Given the potential of the Volhoffer project, we felt compelled to implement a first pass of exploration drilling of the ground conductors.”

Neil McCallum, P.Geo., of Dahrouge Geological Consulting Ltd., a Qualified Person, has reviewed and approved the disclosure of technical information within this news release.

**2012 samples were analysed by SRC Geoanalytical Laboratories (an SCC ISO/IEC 17025: 2005 Accredited Facility) of Saskatoon for analysis. The uranium content above is by ICP-MS (partial digestion).*

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.

ON BEHALF OF THE BOARD OF DIRECTORS

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