



27 October 2009

The Manager  
Company Announcements Office  
Australian Stock Exchange  
20 Bridge Street  
SYDNEY NSW 2000

**ASX ANNOUNCEMENT**

**CRYSTAL CREEK EXPLORATION UPDATE**

- **Drilling program will commence mid-November**
- **Drilling will test additional targets identified from geochemical and geophysical surveys**

The directors of Uranium Exploration Australia Limited ('UXA') are pleased to provide an update on exploration at its 100% owned Crystal Creek Project in the Northern Territory.

Crystal Creek is located on Exploration Licence (EL) 24566, Ngalia Thrust, approximately 320km northwest of Alice Springs, and near to Energy Metals' Bigriyi uranium deposit.

In July, the Company announced the discovery of a zone of uranium mineralisation which crops out intermittently over a strike distance in excess of 3,000m. Early field sampling with a portable XRF machine indicated excellent U<sub>3</sub>O<sub>8</sub> concentrations of up to 4,120 ppm (ASX announcement 16<sup>th</sup> July 2009) and this range of values was confirmed by laboratory XRF analyses on rock chip samples (ASX announcement 27<sup>th</sup> August 2009).

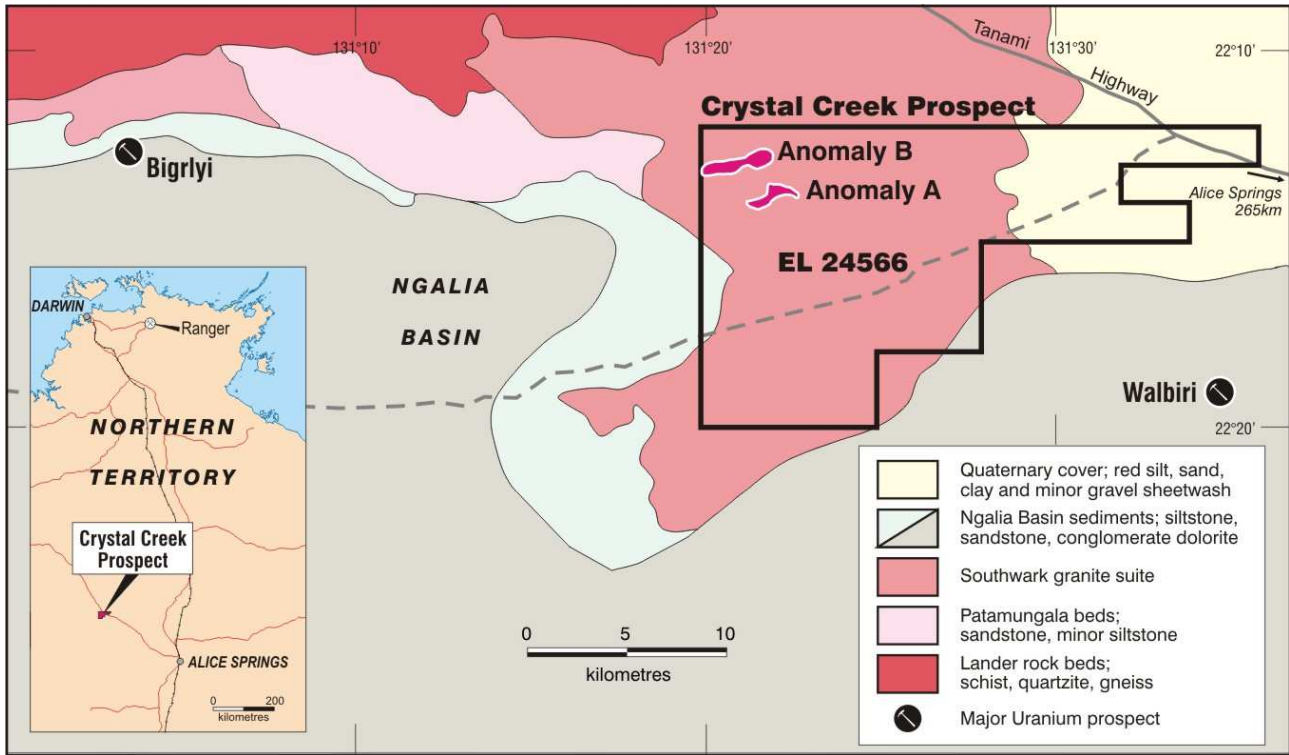
**Planned Drilling Program**

A heritage clearance survey has been completed at Crystal Creek and UXA expects to receive documentation of the clearance from the Central Lands Council shortly.

An RC percussion drill agreement has been signed with Arrinooka Drilling, who has considerable experience drilling in the area. The drilling program is expected to commence in the second week of November. Shareholders will be advised when the rig has started drilling. The drilling program will test the most anomalous portions of the 3,000m long outcrop of the uranium mineralisation, and additional targets identified by the airborne geophysical survey and soil geochemical surveys recently completed.

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**Figure 1. Crystal Creek location map**



**Results of Geochemical Surveys at Crystal Creek**

Results have been received from a 600 sample soil geochemical grid collected covering the 3,000m long outcrop at Crystal Creek, Anomaly B. The anomaly pattern largely confirms the results of the Niton field XRF and rock chip geochemical sampling programs (ASX Release 27 August 2009) and shows some adjacent areas of anomalism.

Two strong element association patterns are evident in the soil geochemistry. The elements Pb, Sn and U, and to a lesser extent the rare earth elements (REE) Ta and Nb, map areas of altered granite and there is a strong co-incidence with the U<sup>2</sup>/Th image from the airborne geophysical survey. Elements Co, Ni and Cr map the ironstone outcrop and also possibly show the second structure identified in the airborne magnetic survey lying to the South East of the mapped structure at Anomaly B (ASX Release 24 September 2009). These elements also show a possible extension of the mineralised ironstone structure for up to 1,000m to the North East of the outcrop, to the limits of the survey. These additional target areas will be tested in the forthcoming drilling program.

Rock chip samples were analysed for a broad range of elements and confirm that uranium alone is strongly anomalous. Values of thorium and REE's are not strongly anomalous despite the identification of a number of REE minerals in petrographic work.

SEM (scanning electron microscope) studies of surface rock samples, conducted at the University of Adelaide have identified the association of uranium with altered titanium and iron oxide minerals and the possible presence of the uranium bearing minerals brannerite and coffinite. Further samples have been collected for acid leach studies to compare with the XRF analyses.

**For further information, contact.**

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*Technical Information in this report is based on information compiled by Mr Simon Powell who is employed by Uranium Exploration Australia Limited and who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Powell has sufficient exploration experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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 Reserves' ("JORC 2004"). Mr Powell consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.*

## **About UXA**

Uranium Exploration Australia Limited was formed to explore for and develop uranium and associated base and precious metal deposits, focusing principally on its ground holdings in the world class uranium provinces in South Australia and Northern Territory. UXA has an exploration joint venture with RIL Australia Pty Ltd, a subsidiary of Reliance Limited, the largest private sector company in India.

In July 2009 UXA announced the discovery of uranium mineralisation in a 3,000m long structure within granite at Crystal Creek, on its Ngalia Thrust exploration licence in the Northern Territory. UXA is vigorously following up this discovery with field work.

In October 2009 UXA announced the completion of the purchase of a borehole logging business, Geoscience Associates (Australia) Pty Ltd (GAA). GAA is continuing to operate as a separate business and provide cash flow for UXA's exploration activities. GAA has the sole distribution rights in Australia to the Prompt Fission Neutron device, a specialised tool for directly measuring the content of uranium in boreholes, thereby overcoming the problem of disequilibrium. GAA provides logging services to the coal and uranium industries (both gamma and PFN logging) throughout Australia.

More information on UXA can be found on our website at [www.uxa.com.au](http://www.uxa.com.au)