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

ASX ANNOUNCEMENT

**STRONG URANIUM VALUES AT CRYSTAL CREEK
CONFIRMED BY GEOCHEMICAL SAMPLING**

- **High grade uranium – rock chip samples returning up to 4,170 ppm U_3O_8**
- **Airborne high resolution geophysical survey commences this week**
- **Field programs well advanced and drill program plans unveiled**

The directors of Uranium Exploration Australia Limited ('UXA') are pleased to announce encouraging geochemical results from rock chip samples collected 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' Bigrlyi uranium deposit.

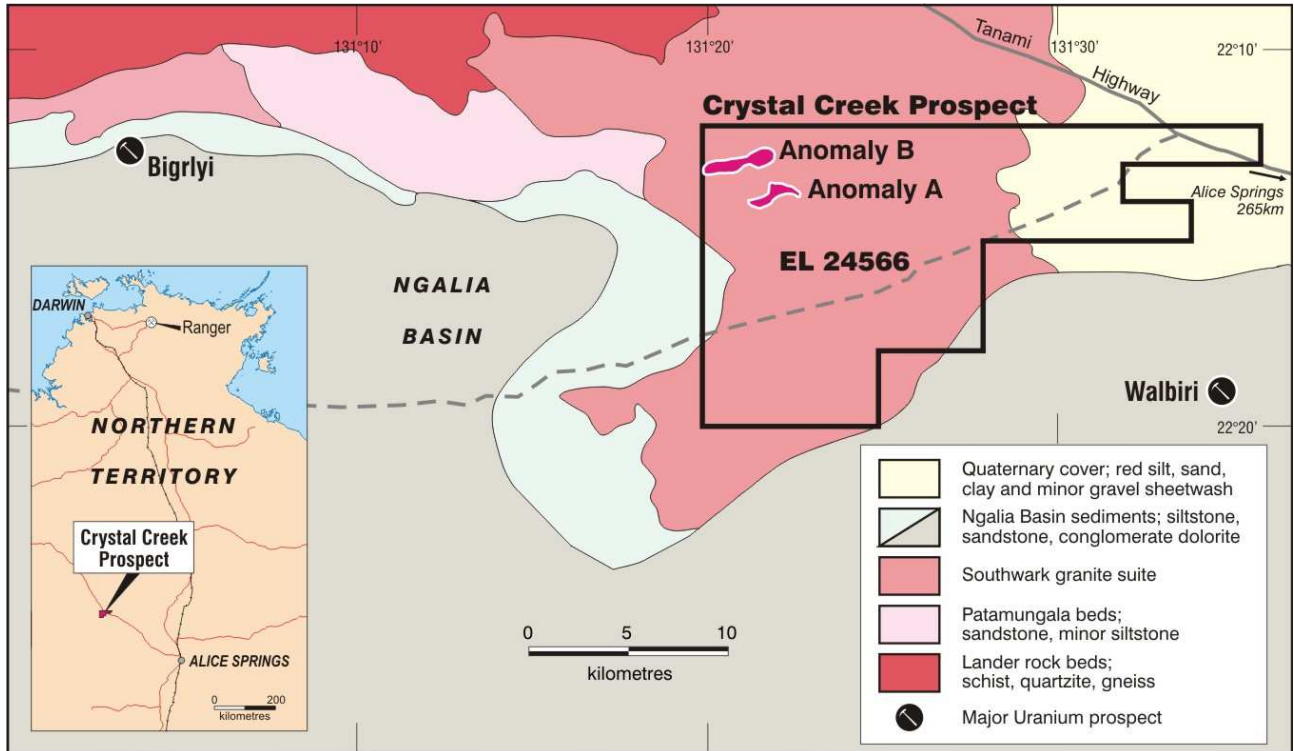
In July, the Company announced the discovery of a zone of uranium mineralisation which crops out intermittently over a strike distance in excess of 3,000m. Early field sampling with a portable XRF machine indicated excellent U_3O_8 concentrations of up to 4,120 ppm (ASX announcement 16th July 2009).

Results of geochemical sampling

The new geochemical results come from rock chip samples collected at Crystal Creek, Anomaly B. These samples have been crushed and analysed by XRF in a commercial laboratory and confirm values of uranium up to 4,000 ppm U (4,172 ppm U_3O_8).

Although a direct correlation cannot be made between the reported uranium values made by the portable Niton XL3t XRF unit and the laboratory XRF values which are determined from much larger rock samples, they both provide a strong confirmation of the presence of uranium in outcrop and also indicate that thorium values are low (Table 1).

Figure 1. Crystal Creek location map



Crystal Creek Exploration Program

The company has approved an additional \$900,000 budget for an aggressive exploration program to be completed within 2009. A soil sampling field program has just been completed, with the samples in transit to a commercial laboratory for analysis.

Geological mapping is currently underway and has so far revealed that the 3,000m long uranium bearing structure lies within a type of altered granite called a "greisen", which in places also has strong surface uranium values.

Mineralogical and further geochemical studies are being conducted on the samples collected to investigate the mineralogy of the uranium mineralisation.

A high resolution airborne magnetic and radiometric survey has been contracted to UTS Geophysics and is scheduled to start flying on 28th August. The highly detailed survey will help to map uranium distribution and possible different alteration phases in the surrounding granite.

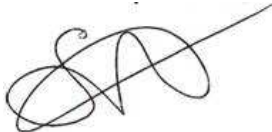
A heritage survey is currently being conducted by the Central Lands Council in preparation for drilling activities. Drill tenders are currently being reviewed and it is anticipated that drilling will commence in early October.

Table 1. Laboratory XRF and Niton XRF uranium and thorium values from Anomaly B - at Crystal Creek.

Sample location	Easting	Northing	XRF U Niton (ppm)	Lab XRF U (ppm)	XRF Th Niton (ppm)	Lab XRF Th (ppm)
83001	743801	7541681	311 (± 61)	80	b.d	15
83002	744018	7541726	30 (± 18)	75	b.d	15
83003	743244	7541397	b.d	60	b.d	25
83004	743801	7541681	311 (± 61)	50	b.d	15
83005	743340	7541697	202 (± 57)	90	64 (± 33)	20
83006	743558	7541753	3500 (± 209)	4000	b.d	20
83007	743441	7541716	374 (± 71)	215	b.d	15
83008	743368	7541692	350 (± 57)	55	b.d	15
83009	743558	7541753	2644 (± 174)	3600	61 (± 40)	15
83010	743356	7541685	262 (± 80)	145	b.d	15
83011	741864	7541191	1438 (± 140)	700	b.d	15
83012	743441	7541716	374 (± 71)	115	b.d	25
83016	743356	7541685	262 (± 80)	130	b.d	20
83017	742814	7541575	b.d	45	b.d	15
83018	740827	7540888	b.d	25	b.d	20
83019	743340	7541697	130 (± 42)	110	39 (± 23)	20
83020	743397	7541695	b.d	25	b.d	20
83021	740781	7540934	b.d	130	b.d	5
83022	741959	7541237	b.d	105	b.d	15
83024	740785	7540909	b.d	50	b.d	25
83025	741864	7541191	457 (± 76)	550	b.d	15
83026	741864	7541191	457 (± 76)	600	b.d	5

“b.d” = below detection

For further information, contact.



Russell Penney
Managing Director.

Tel: +61 8 8363 7970
 Email: info@uxa.com.au
 Website: www.uxa.com.au
 Media: Farrington National +612 9332 4448

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 August 2009 UXA announced an agreement and financing to complete the purchase of a borehole logging company, Geoscience Associates (Australia) Limited (GAA). GAA will continue to operate as a separate business and provide cash flow for UXA's exploration activities. GAA also has the sole distribution rights to the Prompt Fission Neutron device, a specialised tool for directly measuring the content of uranium in boreholes, thereby overcoming the problem of disequilibrium.

More information on UXA can be found on our website at www.uxa.com.au