

# ASX ANNOUNCEMENT 27 April 2011

URANIUM EQUITIES LIMITED ACN 009 799 553



**URANIUM**  
EQUITIES

The Company Announcement Officer  
Australian Securities Exchange Ltd  
via electronic lodgement

## Quarterly Report Quarter ended 31 March 2011

### Highlights

#### PhosEnergy – Uranium Extraction Technology

- Construction of Demonstration Plant nearing completion for the PhosEnergy Process for the extraction of uranium from phosphoric acid streams
- Demonstration Plant planned to commence operations in the US in the third Quarter to test the efficacy of the process under industrial conditions
- Plant will also provide cost and design data for construction of a full-scale commercial facility

#### Uranium Exploration

- Intercepts including **23m @ 1,980ppm U<sub>3</sub>O<sub>8</sub>** received in final laboratory results for drilling at the Coopers Prospect, West Arnhem Joint Venture
- Planning for 2011 exploration program nearing completion with field work to test extensions to the U40 and Coopers prospects to commence in early Q3 2011
- Planning and clearances for drill programs on the Frome Basin and Lake Blanche Projects in South Australia well advanced
- Vale elects to proceed to Phase 2 of the Headwaters Project in West Arnhem Land in the Northern Territory
- Exploration Licences granted for the Marla and Oodnadatta Projects covering a total area of 13,963km<sup>2</sup>

#### Corporate

- The Group's cash balance at the end of the Quarter was **\$6.7 million** (\$1.1 million has been received and is held on account from Cameco as part of the earn-in expenditure on the PhosEnergy Process).

### Our Strengths

- Breakthrough PhosEnergy Process
- Nabarlek Project – A rare investment opportunity
- Multiple near term growth opportunities

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## 1. URANIUM EXTRACTION TECHNOLOGY

*Through its USA-registered subsidiary Urtek LLC ("Urtek"), Uranium Equities is developing a new technology for the extraction of uranium from phosphoric acid streams produced in the production of phosphate-based fertilisers, "the PhosEnergy Process".*

*Cameco Corporation is funding the ongoing development and commercialisation of the PhosEnergy Process through a staged investment of up to US\$16.5 million. If Cameco earns its interest it has agreed to provide funding for a minimum of 50% of UEQ's portion of capital expenditure, under terms to be agreed, for the construction of the first commercial plant, repayable out of earnings.*

*UEQ estimates the cash operating cost of uranium production employing the PhosEnergy Process to be **US\$20 to US\$25** per pound of  $U_3O_8$ . This cost estimate is based on a 1 million tonne per annum  $P_2O_5$  phosphate production facility operating in the USA and incorporates a significant contingency of 40%.*

### 1.1. Activities – Technical and Business Development

Construction of a fully integrated and process controlled Demonstration Plant to test the efficacy of the PhosEnergy Process under industrial conditions was nearing completion at the end of the Quarter. The demonstration plant, which has been designed and constructed in Adelaide, is now being commissioned and is planned to be ready for transport to the USA by mid-May.

The demonstration is planned to operate at a site in the US commencing in the third Quarter of this year and will provide cost and design data to enable the construction of a full-scale commercial facility,

This first-class asset has been constructed to international standards and is able to be easily transported to, and integrated into, phosphate fertilizer facilities around the world. It encompasses all of the key aspects of the PhosEnergy process within two 40-foot shipping containers (*Figure 1*).



Figure 1 – PhosEnergy Process Demonstration Plant

Further enhancements to the PhosEnergy flowsheet are planned, examining the potential to extract and recover other by-product elements further improving the cost structure of the process within the next quarter.

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## 2. Uranium Exploration Activities

*Uranium Equities has a focused exploration portfolio of eight key uranium projects in the Northern Territory, South Australia, Western Australia and Queensland. This portfolio includes Exploration Licences (and Applications) covering an area of over 24,000km<sup>2</sup>, representing a number of different uranium deposit styles and targets.*

*A key focus for the Company is the West Arnhem Joint Venture with Cameco Australia (UEQ 40%) and the 100%-owned Nabarlek Mineral Lease, which represents a rare near-mine exploration opportunity surrounding the historic Nabarlek Uranium Deposit (24Mlbs @ 1.84% U<sub>3</sub>O<sub>8</sub>). The deposit lies within an extensive uranium mineral system which extends over more than 50km<sup>2</sup> within the Mineral Lease and the surrounding tenements.*

### 2.1. West Arnhem Joint Venture – 40% UEQ: 60% Cameco Australia (Manager) (NT)

During 2010, the Joint Venture tested a number of target areas within the Company's 477km<sup>2</sup> West Arnhem Joint Venture project area in the Northern Territory (see Figure 2) including the **U40 Prospect** (see ASX Announcement of 16 December 2010) and the **Coopers Prospect** (See ASX Announcement of 24 September 2010)

During the Quarter, Cameco Australia advised that it had received independent laboratory assay results from the drilling program conducted at the **Coopers Prospect**, which is located 2.4km east of the Nabarlek Mine and 800m east-north-east of the N147 Prospect, close to the south-east corner of the Nabarlek Mineral Lease (UEQ 100%). RC drilling was targeting a uranium geochemical anomaly previously defined by aircore drilling.

Results include assays from RC drill-hole NAR7386, in which visible secondary uranium mineralisation was observed within dolerite lithologies. Strong hematite and chlorite alteration is associated with the mineralisation and also occurs in the underlying basement rocks providing a possible basement target beneath the dolerite sill.

Significant intercepts<sup>(1)</sup> using a 200ppm U<sub>3</sub>O<sub>8</sub> cut-off grade include:

NAR7377	1m @ 1,110ppm U <sub>3</sub> O <sub>8</sub> from 30m
NAR7378	3m @ 396ppm U <sub>3</sub> O <sub>8</sub> from 34m
NAR7386	23m @ 1,980ppm U <sub>3</sub> O <sub>8</sub> from 40m inc. 4m @ 3,830ppm U <sub>3</sub> O <sub>8</sub> from 47m and 3m @ 3,066ppm U <sub>3</sub> O <sub>8</sub> from 55m

Uranium Equities' current interpretation of the geological setting in the vicinity of NAR7386 suggests that there is a possible faulted offset position for dolerite-hosted mineralisation to the west while the potential for basement hosted mineralisation remains open to the south-west.

The Joint Venture is finalising planning for the 2011 field season work program to test for extensions to the mineralisation at the U40 and Coopers Prospects with field work expected to commence in early Q3 2011.

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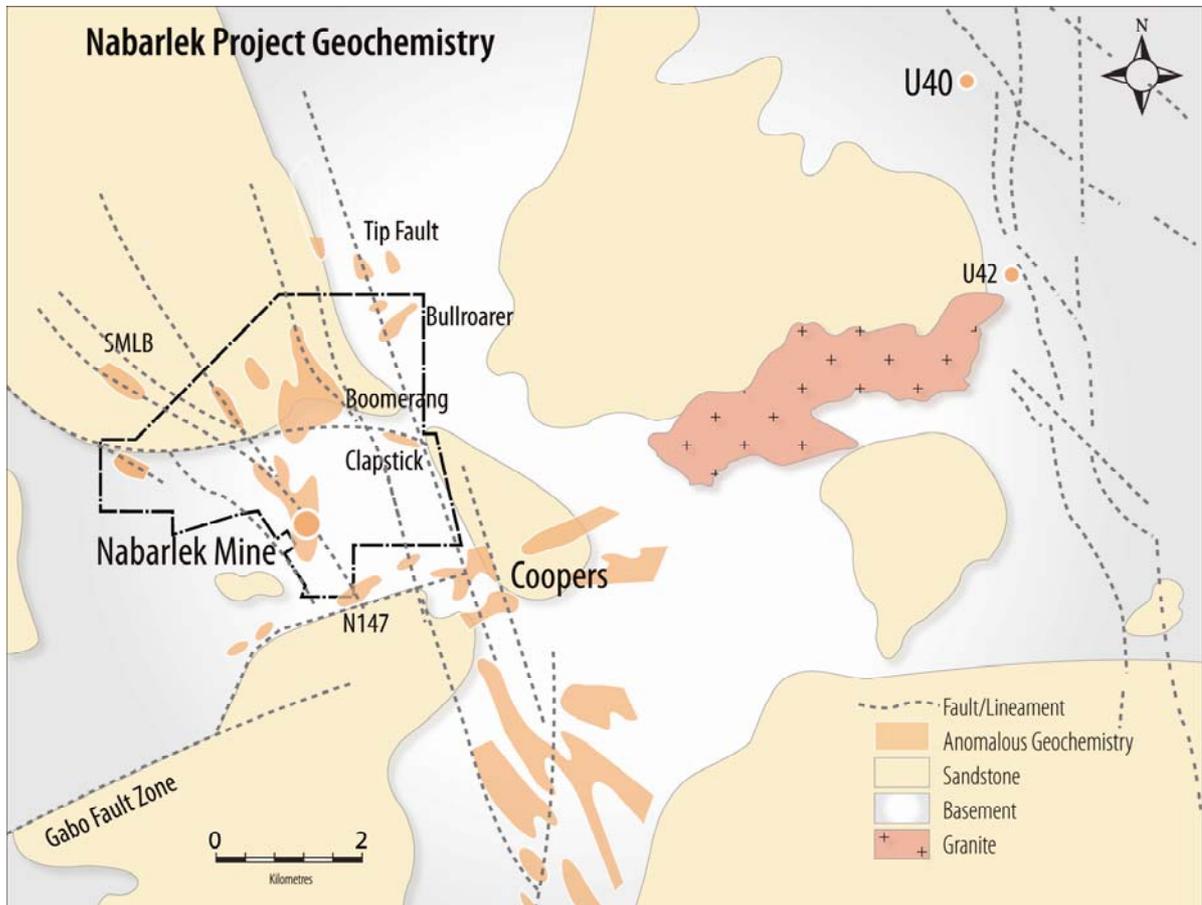


Figure 2 – Nabarlek Project

## 2.2. Nabarlek Mineral Lease (100% UEQ) (NT)

The 2010 geochemical drilling program has successfully defined a number of geochemically anomalous prospects under shallow Kombolgje Sandstone and alluvial cover within the Mineral Lease.

A major geological, geophysical, structural and alteration review is being finalised to identify vectors towards high-grade mineralisation to define targets for the proposed 2011 drill program. Planning for this year's field season work program is continuing with the priority target areas being the Boomerang and Clapstick Prospects identified in 2010 (Figure 2).

The 2011 exploration drilling program within the Nabarlek ML will target a Nabarlek-type deposit – a high grade deposit with a very high net value. The historic Nabarlek Mine produced 24Mlbs of  $U_3O_8$  at an average grade of 1.84% from a mineralised zone approximately 200m long to a depth of 70m.

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## 2.3. Frome Basin (SA)

Uranium Equities has consolidated a large (2,397km<sup>2</sup>) strategic ground position in one of Australia's most prospective uranium provinces, South Australia's Lake Frome district. The ground position comprises the West Lake Frome Joint Venture, a \$5 million farm-in agreement with Cauldron Energy Limited (ASX: CXU), and three UEQ 100%-owned exploration licences (Figure 3).

A reconnaissance rotary-mud drilling program is currently being planned for the first year of exploration along the western margin of the Frome Embayment, with three traverses over the highest priority targets. Targeting is designed to test structural positions along the Wertaloona Fault, using the Four Mile/Pepegoona mineralisation style as the model.

Work proposals have been approved by government authorities and native title access agreements have been executed. Heritage surveys and drill operations are planned for Q2 2011.

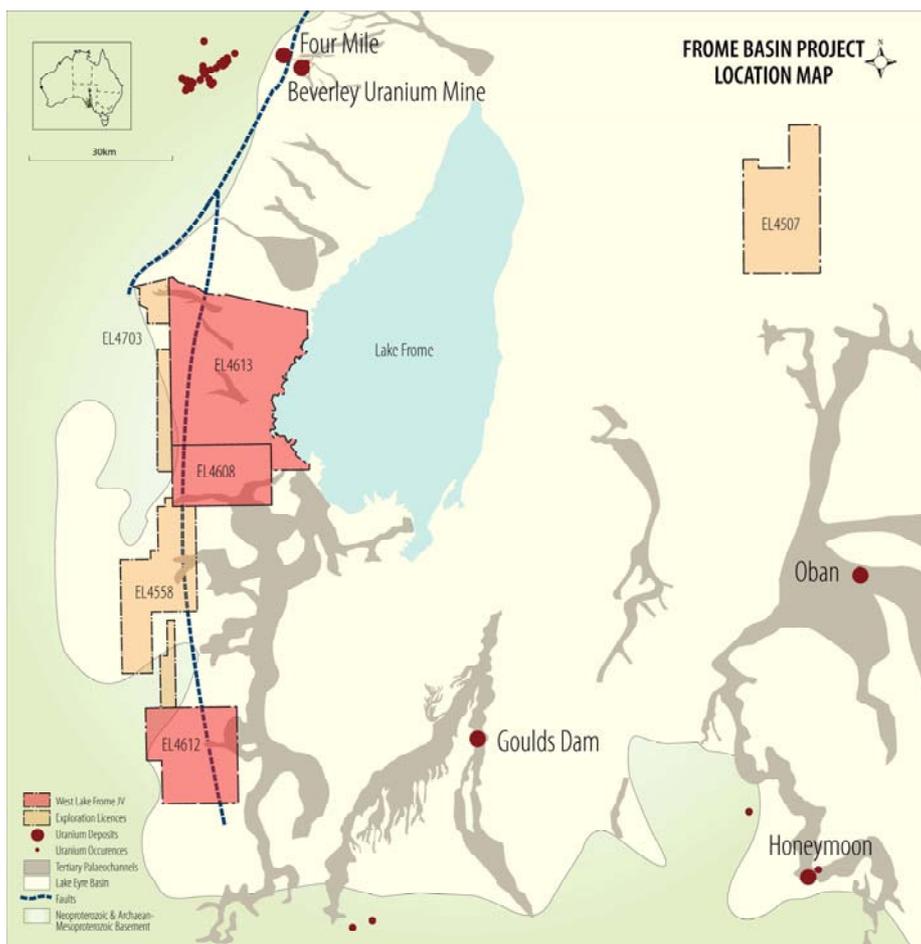


Figure 3 – Frome Basin Ground Position

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## 2.4. Headwaters Project (NT) (Vale Earning 70%)

*The Headwaters Project is located within the Arnhem Land Plateau along the western margin of the Proterozoic McArthur Basin. The Project is being funded by Vale Exploration Pty Ltd ("Vale"), a wholly-owned Australian subsidiary of Vale S.A, under a JV agreement.*

Vale has elected to proceed to Phase 2 of the Project whereby Vale may earn a 70% interest over the next five years by sole funding expenditure to completion of a Pre-Feasibility Study.

A heli-assisted diamond drilling program was completed in 2010 targeting Westmoreland-style uranium mineralisation associated with major structures and volcanic sequences within the thick sedimentary package. Laboratory assays of selected intervals revealed the anomalous nature of the targeted volcanics (up to 59ppm U<sub>3</sub>O<sub>8</sub> and 102ppb Au) but did not produce any significant intercepts.

Additional processing and interpretation of a detailed airborne magnetic-radiometric survey flown for the Company during 2010 has revealed regions with an elevated radiometric response associated with regional structural positions. Planning for the 2011 field season work program is focussing on these previously unexamined regions with the intention of prompt field reconnaissance once access to the area can be gained.

## 2.5. Lake Blanche (SA)

*The Lake Blanche Project is targeting sandstone-hosted uranium located within the Eromanga Basin, 80 to 190km north-east of the highly uraniumiferous Mt Painter Block, in South Australia. The tenement package comprises seven exploration licences totalling 6,074km<sup>2</sup>. The Lake Blanche Project is in joint venture with and managed by Cameco Australia Pty Ltd, where Cameco has the right to earn up to a 60% interest in the Project.*

The 2010 work program was disrupted by wet weather conditions in the mid-north of South Australia, however conditions have recently improved to allow ground access. Work heritage clearances and a rotary-mud drilling program have been scheduled for Q2 2011.

## 2.6. Rudall River (WA)

*The Rudall River Project consists of three Exploration Licence Applications, the western-most of which adjoins the Kintyre Project.*

The native title negotiation process has commenced with the Traditional Owners of the Rudall River region. A successful outcome from this process will allow the applications to proceed to grant. The Company believes the region is prospective for additional Kintyre-type mineralisation.

## 2.7. Marla and Oodnadatta Projects (SA)

*Two large exploration landholdings in the north of South Australia, covering a total area of 13,963km<sup>2</sup>, applied for in 2010 have now been granted.*

The primary exploration target in each of the project areas is large volumes of sandstone-hosted uranium mineralisation which can be mined at low cost. The regions were targeted as they show similarities in geological setting to the Frome Basin but have not been the focus of the same extensive investigations.

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Data compilation has shown that large under-explored palaeochannel systems are evident, while geochemical anomalism, major basement structures and permeable sandstones with reductants and clay aquitards exist. Redox variations have been logged and potential depocentres or traps have been identified.

In addition, the regions also have potential for IOCG mineralisation with a distinct, untested coincident magnetic and gravity high in the Marla Project area that warrants further investigation.

## 3.0 CORPORATE

The Group's cash balance at the end of the quarter was \$6.6 million, inclusive of a \$1.8 million performance bond against Nabarlek rehabilitation obligations. \$1.1 million has been received and held on account from Cameco as part of earn-in expenditure on the PhosEnergy Process. Refer Appendix 5B for further information.

A handwritten signature in black ink, appearing to read "B. Jones".

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Managing Director  
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<sup>1</sup> Results provided by Northern Territory Environmental Laboratories Pty Ltd. Intercepts calculated using stated cut-off and may contain a maximum internal dilution of 2m. All intercepts are down hole lengths.

## Competent Person Statement

The information in this announcement that relates to Exploration Results is based on information compiled by Mr. Grant Williamson, Geology Manager - Exploration of Uranium Equities Limited, who is a Member of the Australian Institute of Geoscientists and of the Australasian Institute of Mining and Metallurgy Inc. Mr. Williamson has sufficient experience in the field of activity being reported 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, and consents to the release of information in the form and context in which it appears here.

## About Uranium Equities

Uranium Equities Limited (UEQ) has two main areas of focus: The development of the **PhosEnergy Process**; and exploration activities directed at a small core of high quality exploration assets which include the key **Nabarlek Project**.

The PhosEnergy Process is an innovative patented process for the extraction of uranium as a by-product from phosphate in the production of phosphate based fertilisers.

The global annual production potential of uranium from the phosphate industry is in the order of 20 Mlbs U<sub>3</sub>O<sub>8</sub>. This quantity of uranium is mined in phosphate ores but not recovered annually on a worldwide basis. The major phosphate based fertiliser producers are located in Northern Africa, North America and Asia.

The PhosEnergy Process has been proven to pilot scale with results establishing a robust process capable of achieving high levels of uranium recovery at the lower end of the cost curve.

The Nabarlek Project provides a rare near mine exploration opportunity surrounding the historic Nabarlek uranium deposit (24 Mlbs @ 1.84% U<sub>3</sub>O<sub>8</sub>). The deposit lies within an extensive uranium mineral system which extends over more than 50 square kilometres within the Mineral Lease and the surrounding tenements. The mineral system which contains widespread anomalous uranium geochemistry and ore grade mineralisation at several locations remains largely untested.