

## Quarterly Report Quarter ended 31 March 2008

### HIGHLIGHTS

#### Exploration

- Acquisition of the Nabarlek Mining Lease consolidates the Company's substantial land holding over highly prospective ground within the world class Alligator Rivers Uranium Province, Northern Territory.
- Re-interpretation of the Cameco-UEQ drilling at N147 identifies the potential for an east dipping body of high grade uranium mineralisation within the Nabarlek Shear Zone.
- A "Beverley-4 Mile" style palaeochannel uranium target developed for drill testing at the Watson's Project, South Australia.
- Airborne magnetic and ground gravity surveys combine to define a potential hematite iron ore target within a soil covered BIF sequence at Moorarie, Western Australia.

#### Uranium Extraction

- The development of Urtek's "PhosEnergy Process" to extract uranium from phosphate ores in the superphosphate process advances to the pilot scale testwork stage.

### EXPLORATION ACTIVITIES

#### 1. NORTHERN TERRITORY

##### 1.1 NABARLEK MINING LEASE (UEQ 100%)

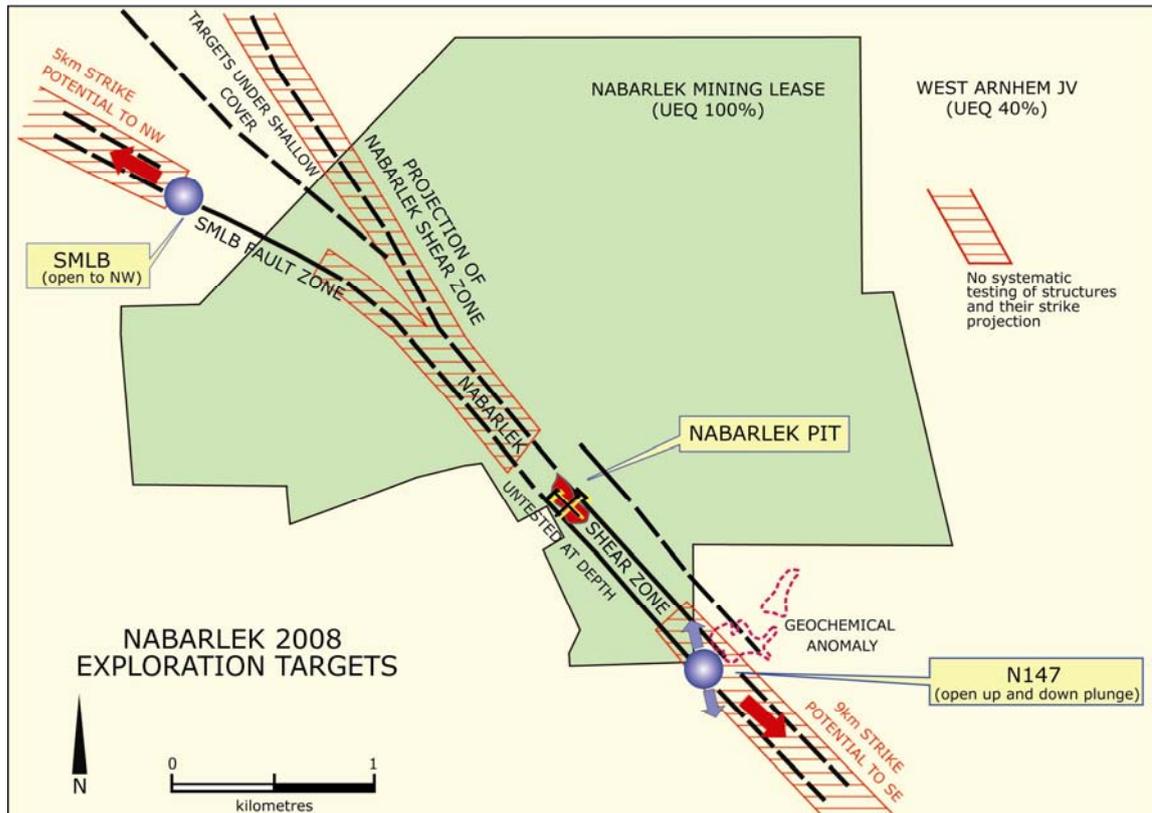
Subsequent to the close of the quarter, the Company entered into an agreement to acquire the 12km<sup>2</sup> Nabarlek Mining Lease in the Alligator Rivers Uranium Province, Northern Territory (ASX release dated 4 April 2008). The Mining Lease covers the high grade Nabarlek Uranium Deposit, which was discovered in 1970 and mined between 1979 and 1988. The mine produced 24 million pounds U<sub>3</sub>O<sub>8</sub> from 570,000t of ore at an average grade of 1.84% U<sub>3</sub>O<sub>8</sub>.

UEQ will hold a 100% interest in the Mining Lease and a 40% interest in the surrounding ground, in joint venture with Cameco Australia.

There has been no systematic exploration drilling on the Mining Lease since 1994. Past exploration achieved only limited testing of host structures along strike and down dip from the Nabarlek Deposit.

The prospective Nabarlek Shear Zone, host to the Nabarlek Deposit, is present over 4 kilometres within the Mining Lease (Figure 1); parts of this are essentially untested. The Shear Zone extends for more than 18 kilometres within the Mining Lease and surrounding UEQ-Cameco joint venture tenements.

A major RAB and RC drilling program is planned for the coming June – November field season.



**Figure 1: Nabarlek area -exploration targets and structural elements**

## 1.2 CAMECO – UEQ WEST ARNHEM LAND JOINT VENTURE (UEQ 40%)

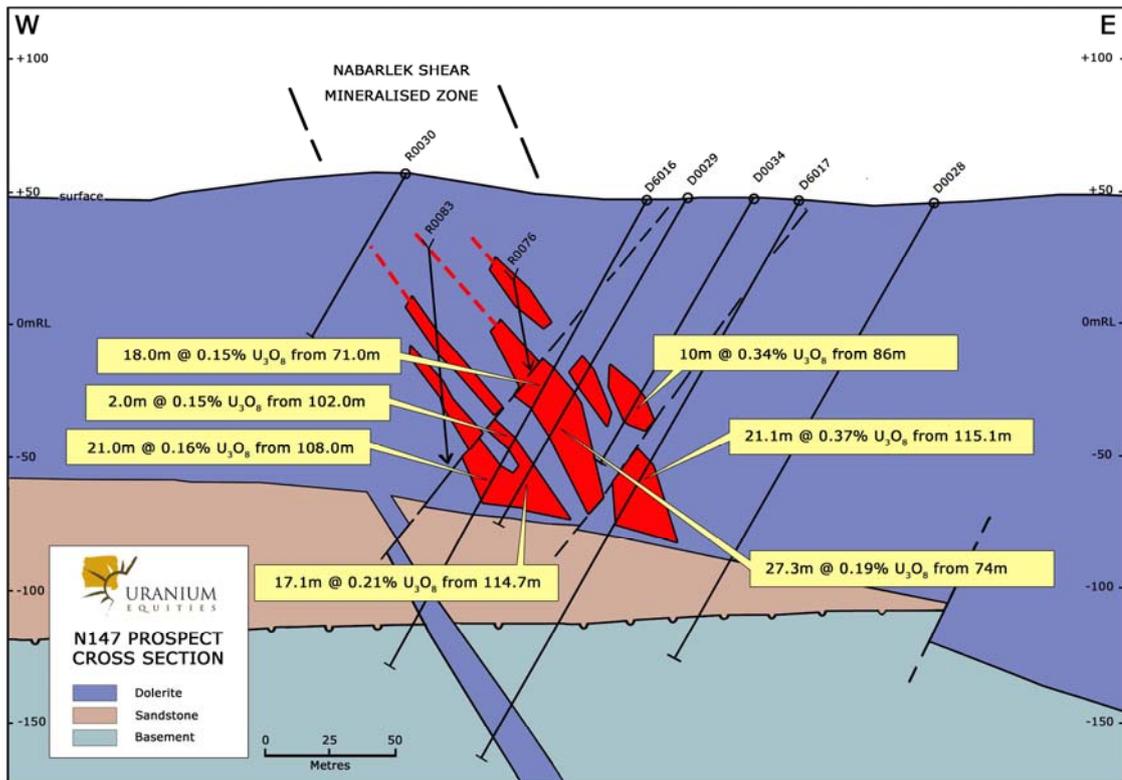
Drilling of the N147 prospect was undertaken with mixed results (previously reported) during the 2007 field season. Following the end of the field season, the Company embarked upon a major re-evaluation of all results of past exploration at N147 and in the Nabarlek region.

As a result of this work N147 is interpreted to lie along the Nabarlek Shear Zone, 1200 metres to the south of the Nabarlek Deposit.

Re-evaluation of the 2007 and historical drilling results at N147 has identified the potential for a substantial body of mineralisation extending north-south along the Nabarlek Shear at N147.

Based upon this interpretation much of the historical drilling is considered to have been oriented in the wrong direction and appears to have failed to test the potential body.

Effective drilling, to date, has tested one section and delineated uranium mineralisation in a sub-vertical to steeply eastward dipping zone, more than 50m wide (Figure 2).



**Figure 2: N147 Cross Section**

Effective drilling intercepts<sup>1</sup> from the 2007 drilling program (as previously reported to the ASX) include:

D6016	18.0m @ 0.15% U <sub>3</sub> O <sub>8</sub> from 71.0m
	2.0m @ 0.15% U <sub>3</sub> O <sub>8</sub> from 102.0m
D6017	21.0m @ 0.16% U <sub>3</sub> O <sub>8</sub> from 108.0m
	21.1m @ 0.16% U <sub>3</sub> O <sub>8</sub> from 115.1m

Based upon the current interpretation, the mineralisation has a northerly plunge and is open to the north and south along the Shear Zone.

Fast track drilling to test the extent of the N147 mineralisation will be undertaken immediately upon commencement of the 2008 field season.

<sup>1</sup> <sup>1</sup> ICP-OES analyses of core. Results compiled at a 0.02% U<sub>3</sub>O<sub>8</sub> cut-off with maximum internal dilution of 2.0m.

## **2. SOUTH AUSTRALIA**

### **2.1 WATSONS PROJECT**

(UEQ earning 51%)

Evaluation of historical groundwater drill holes within the extensive palaeochannel system delineated from airborne electromagnetic data has identified a geological/chemical environment favourable for the development of a "Beverley-4 Mile" "roll-front" style uranium mineralization system.

Geological logging and assaying of drill cuttings from water bores drilled in the north-eastern section of the palaeochannel system has returned uranium anomalies in drill cuttings (70 ppm  $U_3O_8$ ) and ground water (700 ppb  $U_3O_8$ ) in oxidised channel sands. Downstream (6 km) from this location, the same channel sand horizon, where drilled, is reduced (unoxidised) and carries no uranium.

An oxidation/reduction front, similar to that developed at the Beverley and 4 Mile uranium deposits in the Frome Basin, South Australia, with the capacity to precipitate and concentrate uranium from ground water is interpreted to lie between the two drill traverses.

Drill testing within this target zone will be undertaken in the coming quarter.

### **2.2 MT WEDGE AND COCATA PROJECTS**

UEQ withdrew from the Mt Wedge and Cocata Projects during the quarter.

### **2.3 EROMANGA PROJECT**

The Eromanga Project comprises 2 large tenement packages, 23,500 km<sup>2</sup>, ("Simpsons" and "Lake Blanche") covering sedimentary sequences within the Eromanga Basin immediately adjoining the Arunta (NT) and Mt Painter (SA) uraniumiferous basement rocks.

The geological setting is analogous to that occurring in the world class uranium producing Chu-Sarysu and Syr Darya Basins in Kazakhstan.

Untested potential for sandstone-hosted uranium deposits developed along regional scale "roll-fronts" within sedimentary sequences adjacent to uranium rich source rocks is considered to exist.

The concept has been endorsed by State and Commonwealth geoscientists. During the quarter UEQ was awarded a \$100,000 South Australian Government PACE funding grant to undertake drill testing.

## **3. WESTERN AUSTRALIA**

### **3.1 MOORARIE**

(UEQ earning 60%)

The Moorarie Project is situated 120 km northwest of Meekatharra in the Northern Yilgarn Craton. Uranium Equities is earning a 60% interest in 3 Exploration Licences (E51/1066 and E52 (1902-03) through a joint venture with Independence Group NL.

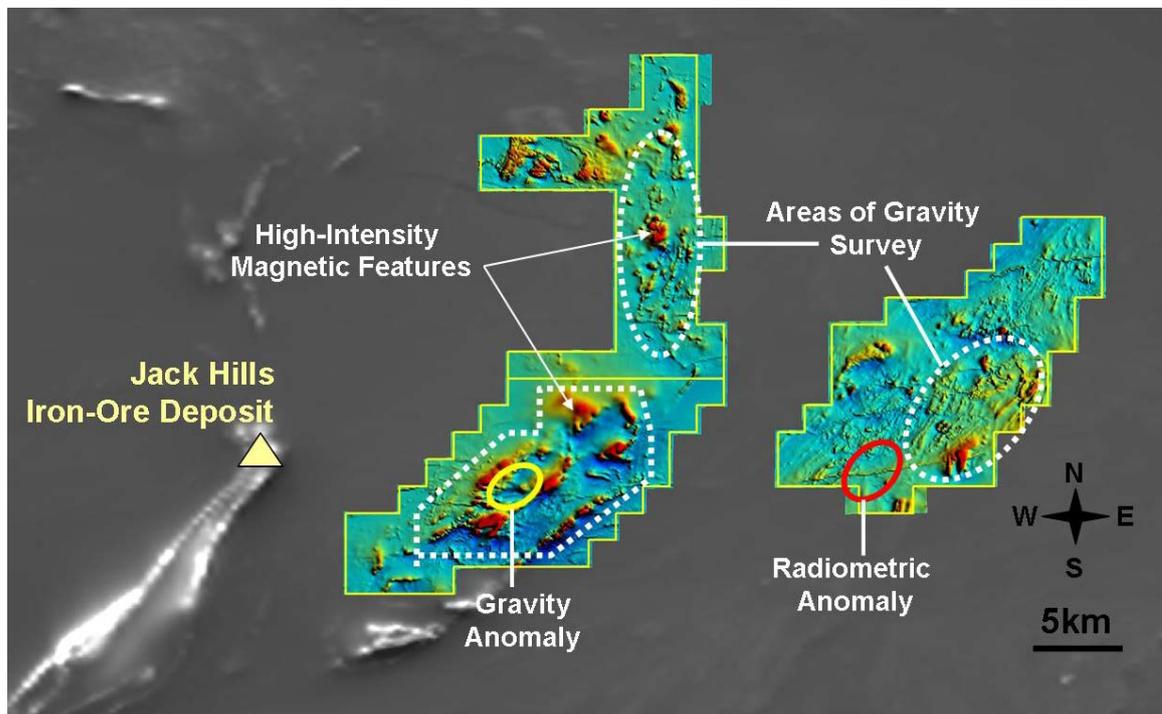
Detailed airborne magnetic and radiometric surveys have been conducted over the tenements and a reconnaissance gravity survey completed (Figure 3).

The airborne magnetic survey and subsequent field sampling and mapping identified an extensive, sparsely outcropping, BIF sequence.

Evaluation of the magnetic and gravity survey results has highlighted a demagnetised zone extending over 2km x 300m with a coincident 8+ mgal gravity anomaly, on the single gravity survey line crossing the zone.

The coincident anomalies, which are soil/alluvium covered, potentially reflect the development of hematite (non magnetic/high density) within the BIF sequence. Drill testing of the anomaly will be undertaken as soon as the appropriate clearances are obtained from the Traditional Owners.

Analysis of the airborne radiometric data together with reconnaissance sampling results suggests that the strong radiometric anomaly identified in the airborne survey (Figure 3) may be derived from a deep seated basement source and not surficial calcrete as is commonly the case in the Yilgarn Craton.



**Figure 3: Moorarie exploration tenements showing magnetic features, areas of reconnaissance gravity survey and location of radiometric and gravity anomalies**

### 3.2 OTHER WA PROJECTS

Titles to the Cosmo, White Cliffs, Three Rivers, Nichols, Lake Wells, Injinu Hills, Mt James, Menangina, Hazlett Cliffs, Mt Marmion and Boolardy projects were relinquished during the quarter. Three Springs, Rudall River, Moorarie and Lake Barlee projects remain part of UEQ’s Western Australian project portfolio.

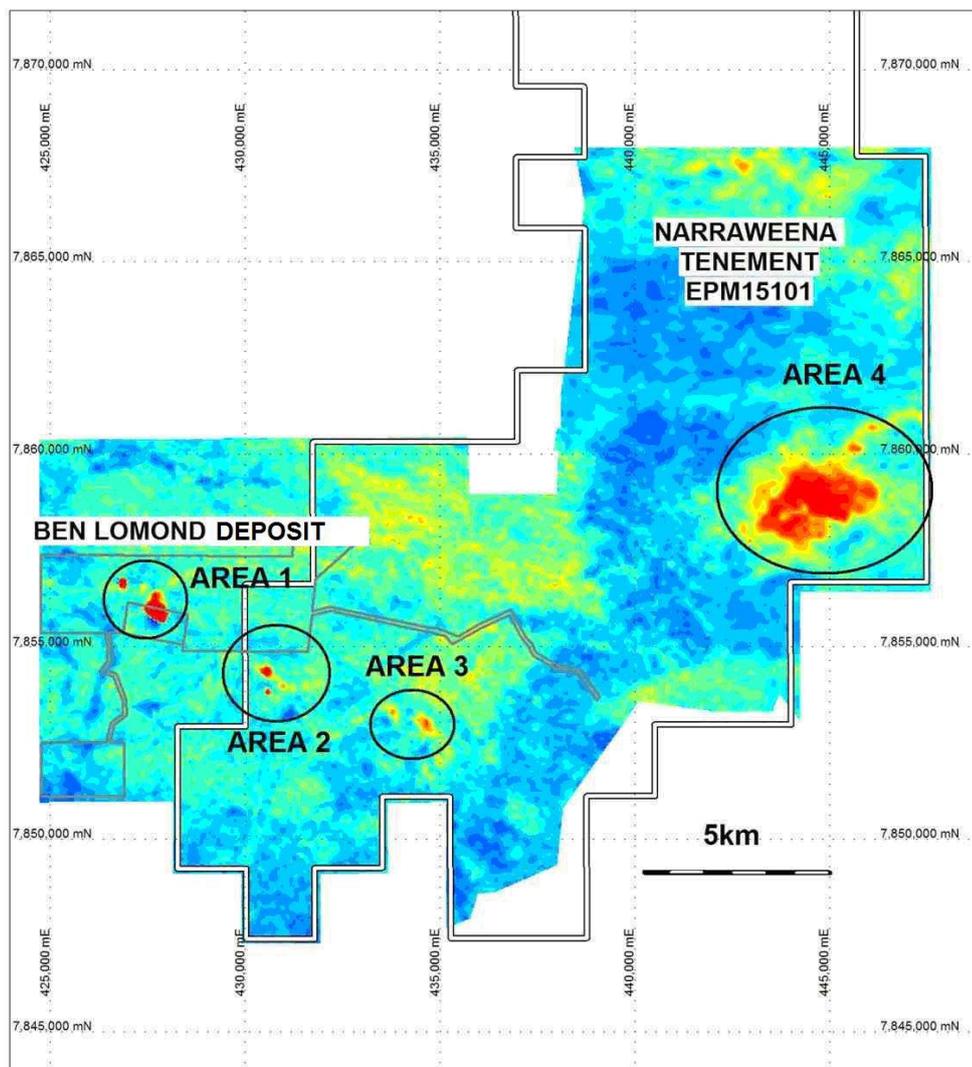
Granting of tenements is awaited at Three Springs (Joint Venture with Southern Uranium Limited) near Geraldton and at Rudall River (2 tenements totaling 144km<sup>2</sup>) near the Kintyre uranium deposit.

#### 4. QUEENSLAND

##### 4.1 NARRAWEENA (UEQ 100%)

The Naraweena tenements cover the extension of the structural zone hosting the Ben Lomond uranium/molybdenum deposit.

Airborne radiometric surveys (Figure 4) carried out by UEQ identified two significant anomalies along trend (Area 2 and Area 3) from Ben Lomond (Area 1) and a large, potential “breccia pipe” type anomaly (Area 4) within the district.



**Figure 4: Naraweena - Uranium channel image highlighting identified uranium anomalies**

Ground evaluation was initiated in mid-April following cessation of the wet season. Preliminary reports indicate strong ground scintillometer readings over wide areas at each of the anomalies. Surface rock chip sampling has been initiated and samples are being submitted for analysis.

An application for a 630km<sup>2</sup> Exploration Licence adjoining the north-eastern boundary of the project and covering potential extensions to the "Ben Lomond" uranium district has been lodged.

## **5. URANIUM EXTRACTION**

### **5.1 The PhosEnergy Process**

Uranium Equities through USA registered Urtek LLC (a company in which UEQ is a 16.7% shareholder and holds the right to secure a 90% interest (under terms reported to the ASX 20<sup>th</sup> June 2007) is currently undertaking the development of new technology for the extraction of uranium from phosphoric acid streams generated in the production of superphosphate fertilisers from rock phosphate in what Urtek has designated as "the PhosEnergy Process".

Worldwide, the annual potential production of uranium from phosphate rock/phosphoric acid has been estimated to be up to 8,500t U<sub>3</sub>O<sub>8</sub> per annum. Historically, production from phosphoric acid peaked at 1,700-2,400 t U<sub>3</sub>O<sub>8</sub> per annum during 1978-1983. All worldwide uranium production from these sources ceased in the early 1990's as a consequence of high operating costs and falling (low) uranium prices.

The PhosEnergy Process is being developed (using the Company's in-house chemical engineering and metallurgical expertise) jointly with a major producer of phosphate fertilisers and phosphoric acid. This work is being carried out in conjunction with and under exclusive arrangements with ANSTO (The Australian Nuclear Science and Technology Organisation) and QED-Occtech.

The development of the PhosEnergy Process has advanced to the pilot scale testwork stage.

Successful completion of this stage could lead to a decision to undertake the evaluation of a larger pilot plant or commercial scale plant within the next 12 - 18 months. Following successful completion of commercial scale testwork the PhosEnergy Process could potentially achieve commercial application by 2011.

From results achieved in testwork completed to date, the PhosEnergy Process is indicating operating costs in the lowest quartile of uranium production coming online over the next 5 years. These indicative costs are in contrast to the high operating costs associated with technologies used during the 1970's and 1980's in the production of uranium from past phosphoric acid streams.

In addition to demonstrating potentially low operating costs, testwork has also indicated that the PhosEnergy Process will have operational and maintenance advantages over past processes by reducing complexity and radioactive waste generation.



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*The information in this report that relates to Exploration Results is based upon information compiled by or approved by Mr David A. Brunt, a full-time employee of Uranium Equities Limited, who is a Fellow of the Australasian Institute of Mining and Metallurgy Inc. Mr. Brunt 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, Minerals Resources and Ore Reserves, and consents to the release of information in the form and context in which it appears here.*