

# ASX ANNOUNCEMENT

29 October 2010

URANIUM EQUITIES LIMITED ACN 009 799 553



**URANIUM**  
EQUITIES

The Company Announcement Officer  
Australian Securities Exchange Ltd  
via electronic lodgement

## Quarterly Report Quarter ended 30 September 2010

### Highlights

#### PhosEnergy - Uranium Extraction Technology

- Ongoing bench scale testwork at ANSTO confirms expected improvements in predicted operating costs.

#### Exploration

- First-pass reconnaissance drilling completed at the Nabarlek Project generating new targets for follow-up.
- RC drilling on the West Arnhem Joint Venture produces significant intercepts at U40 and Coopers Prospects.
- Strategic landholding in the Frome Basin consolidated through Joint Venture with Cauldron Energy.

#### Corporate

- The Group's cash balance at the end of the quarter was \$12.9 million of which \$4.7 million must be applied to continued development of 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

### 1.1 Activities

#### *Funding*

As announced on 5<sup>th</sup> July, 2010 Cameco Corporation has invested the second tranche of US\$5 million, bringing their total investment in the ongoing development and commercialisation of the PhosEnergy Process to US\$7.5 million.

Cameco has the right to earn up to 63% in the technology through staged investment of US\$16.5 million.

#### *Technical and Business Development*

Continuous bench scale testwork was carried out at ANSTO (Australian Nuclear Science and Technology Organisation) for 27 days during the quarter on phosphate samples from three separate fertiliser production facilities.

The results indicate that the PhosEnergy process is robust in terms of acid feed and confirm the potential of recent technical improvements to further reduce the capital and operating costs.

Uranium Equities now estimates the cash operating cost of uranium production employing the PhosEnergy Process to be US\$20 to US\$25 per pound U<sub>3</sub>O<sub>8</sub> based on a 1 million tonne P<sub>2</sub>O<sub>5</sub> per annum phosphate production facility operating in the USA. This represents a significant improvement on previous estimates (US\$25 to US\$30 per pound) supported by the most recent continuous testing and incorporates a contingency of 40%.

A facility of this size would produce in the order of 1 million lbs of U<sub>3</sub>O<sub>8</sub> per annum (based on uranium values typical of the Central Florida phosphate region) and have a capital cost of around US\$120M allowing a significant contingency.

The results from the testing of these phosphate streams will form the basis for ongoing discussions with the owners of the phosphate fertiliser facilities.

Further bench scale testwork has been undertaken during the quarter to reduce operational risk and explore the fundamental chemistry of the process.

### 1.2 Background

Uranium Equities through USA registered Urtek LLC ("Urtek") 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 for the construction of the first commercial plant, repayable out of earnings.

A Non-provisional patent application has been filed in the USA, Jordan and the Patent Cooperation Treaty (PCT) signatory countries. Additional provisional patent applications outlining potentially significant improvements to the Process have been filed in Australia.

## 2 Exploration Activities

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

The Joint Venture has tested a number of target areas with RC and aircore drilling and a short diamond drilling program. Prospect areas examined were the Gabo, Coopers, N147, S9, N23, Quarry Fault and U40 Prospects.

At the **U40 Prospect**, RC drillhole NAR7389 intersected 5.2m @ 1.34% eU<sub>3</sub>O<sub>8</sub><sup>(1)</sup> incl. 2.7m @ 2.28% eU<sub>3</sub>O<sub>8</sub><sup>(1)</sup> (see *ASX Announcement – 24 September 2010*) from down-hole gamma probing. A follow-up diamond drilling program has confirmed the widths and outstanding high uranium grades (see *ASX Announcement – 21 October 2010*). Twin and scissor holes to NAR7389 intercepts (based on down-hole gamma probe results at a 200ppm eU<sub>3</sub>O<sub>8</sub> cut off grade) returned the following intersections:

<b>Twin Hole</b>	<b>NAD7492 returning 6.65m @ 2.6% eU<sub>3</sub>O<sub>8</sub><sup>(1)</sup> from 74.2m; and</b>
<b>Scissor Hole</b>	<b>NAD7493 returning 6.35m @ 1.39% eU<sub>3</sub>O<sub>8</sub><sup>(1)</sup> from 79.8m.</b>

Two additional diamond holes drilled to the north and south of the high-grade intercepts to test for continuity of mineralisation failed to intersect significant uranium. A preliminary structural assessment of this drilling indicates that significant potential for extension to the mineralisation exists.

It should be noted that both of these mineralised intervals are down-hole and are therefore not representative of the true thickness of the zone. The intersected uranium results are from preliminary down-hole gamma probing and need to be assayed by an independent laboratory to accurately quantify the grade, which may vary materially from the equivalent grades (eU<sub>3</sub>O<sub>8</sub>) reported above<sup>(1)</sup>.

The lithologies encountered in the drill holes are extremely altered, sheared and deformed. Mineralisation occurs as pitchblende in massive blebs hosted within a highly chlorite altered rock.

The **Coopers Prospect** is located 2.4 km 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 bedrock geochemical anomaly previously defined by aircore drilling. Significant intercepts (see *ASX Announcement – 24 September 2010*) based on down-hole gamma probe results at a 200ppm eU<sub>3</sub>O<sub>8</sub> cut off grade are as follows:

**NAR7371 returning 18.35m @ 873ppm eU<sub>3</sub>O<sub>8</sub><sup>(2)</sup> from 33.3m**

In addition, two holes for which gamma results were unavailable returned the following indicative intercepts at a 200ppm cut-off grade based on Niton XRF Analyser<sup>(3)</sup> analyses carried out by UEQ:

NAR7374	6m @ 1910ppm U <sub>3</sub> O <sub>8</sub> <sup>(3)</sup> from 23m
NAR7386	24m @ 1624ppm U <sub>3</sub> O <sub>8</sub> <sup>(3)</sup> from 39m

The uranium mineralisation is hosted by a dolerite sill within sandstone immediately above the Kombolgie unconformity and is open to the south south-west of NAR7386 in which visible secondary uranium mineralisation is observed. Strong hematite and chlorite alteration is associated with the mineralisation

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and occurs in the underlying basement rocks opening up the potential for hidden unconformity related mineralisation below the sill.

At the conclusion of the 2010 drilling program, uranium mineralisation in the dolerite remains open to the south-southwest and the north-northeast along strike. Furthermore the potential for basement hosted mineralisation remains open to the southwest.

Drilling at the remaining prospect areas did not produce significant results.

## 2.2 Nabarlek Mineral Lease (100%UEQ)

Exploration on the 100% UEQ owned Nabarlek Mineral Lease in 2010 was directed towards systematic aircore and RC geochemical drilling coverage throughout the Mineral Lease in an attempt to generate new target areas. This geochemical style of exploration has worked well in the past and was used to identify the Coopers Prospect anomalism in an area of extensive alluvial cover.

The exploration target for the ML drilling programs is a Nabarlek-type deposit - a high grade deposit with a very high net value. The historical Nabarlek Mine produced 24 Mlbs  $U_3O_8$  from a mineralised zone approximately 200m long to a depth of 70m. The discovery of similar mineralisation may be difficult to explore under thin sandstone and alluvial cover but Uranium Equities Limited believes the Project warrants a persistent and systematic exploration effort.

Aircore drilling focussed on the eastern part of the Mineral Lease in areas of transported alluvium over basement sequences while RC drilling traversed across sandstone covered regions in the north and central parts of the Mineral Lease.

On compilation of the drilling data three outstanding anomalies requiring additional follow-up RC drilling were produced: the **Boomerang, Bullroarer and Clapstick Prospects** (Figure 1).

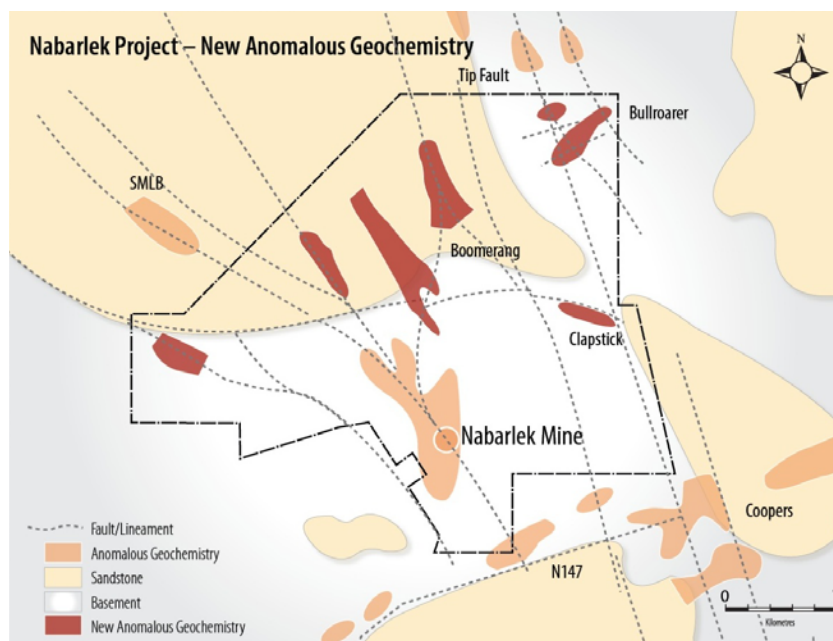


Figure 1 – Anomalous geochemistry and targets for follow up.

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The **Boomerang Prospect** is in the central part of the Mineral Lease, approximately 2km north of the Nabarlek Mine. A geochemically anomalous zone 1400 x 300m was outlined beneath shallow (5 – 60m) Kombolgie Sandstone cover. Drilling through the area was initially completed on a 400 x 200m grid pattern across the structural corridor hosting the Nabarlek, N147 and Coopers Prospect uranium mineralisation.

Major structural features defined by magnetics cut the area including a north – south trending structure that could possibly be related to the Nabarlek Pit mineralisation. The intersection of the major structures provides a focus for follow-up RC drilling.

Indicative intercepts from the Boomerang Prospect at a 20ppm U<sub>3</sub>O<sub>8</sub> cut-off grade based on Niton XRF Analyser<sup>(3)</sup> analyses carried out by UEQ are as follows:

NMLR072	7m @ 40ppm U <sub>3</sub> O <sub>8</sub> from 19m 4m @ 50ppm U <sub>3</sub> O <sub>8</sub> from 96m 5m @ 41ppm U <sub>3</sub> O <sub>8</sub> from 103m
NMLR085	2m @ 188ppm U <sub>3</sub> O <sub>8</sub> from 40m
NMLR106 <i>including</i>	12m @ 383ppm U <sub>3</sub> O <sub>8</sub> from 54m 1m @ 3835ppm U <sub>3</sub> O <sub>8</sub> from 55m

The **Bullroarer Prospect** has been revealed by regolith anomalism producing two east-northeast trending target areas. Aircore drilling in the area was initially completed on a 200 x 100m grid pattern, but has been gradually closed-up to a 100 x 50m drill pattern over the area of interest. The main anomaly covers an area of 600 x 200m and appears to be at the intersection of a number of interpreted structures.

Indicative intercepts from the Bullroarer Prospect at a 20ppm U<sub>3</sub>O<sub>8</sub> cut-off grade based on Niton XRF Analyser<sup>(3)</sup> analyses carried out by UEQ are as follows:

NMLA098	15m @ 103ppm U <sub>3</sub> O <sub>8</sub> from 1m to EOH
NMLA320	14m @ 343ppm U <sub>3</sub> O <sub>8</sub> from 2m

The **Clapstick Prospect** forms an east-southeast trending zone approximately 400 x 100m parallel to the northern (footwall) contact of the Oenpelli Dolerite Sill. The eastern part of the anomalous zone is also in faulted contact with Kombolgie Sandstone sequences. This target is in a similar structural setting to the N147 Prospect where ore grade mineralisation was intercepted in previous drilling (*see ASX Announcement – 15 July 2010*).

An indicative intercept from the Clapstick Prospect at a 20ppm U<sub>3</sub>O<sub>8</sub> cut-off grade based on Niton XRF Analyser<sup>(3)</sup> analyses carried out by UEQ is as follows:

NMLA171	8m @ 46ppm U <sub>3</sub> O <sub>8</sub> from 17m
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Follow-up RC drilling testing these targets is scheduled to commence in early November.

## 2.3 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 which is being funded, under a JV agreement, by Vale Exploration Pty Ltd ("Vale"), a wholly owned Australian subsidiary of Vale S.A.

A heli-assisted diamond drilling program was completed targeting Westmoreland-style mineralisation. Three diamond drillholes were completed for 608.2 metres. Drilling encountered the expected stratigraphic sequences including targeted lithologies but did not produce any significant downhole gamma results. Laboratory assays from selected intervals are pending.

An airborne radiometric – magnetic survey was also flown within the southern Headwaters exploration licence. Preliminary data from the survey has been received and is currently undergoing processing and interpretation.

## 2.4 Lake Blanche (SA)

The Lake Blanche Project targets sandstone-hosted uranium located within the Eromanga Basin, 80 to 190 km northeast of the highly uraniferous 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 project geology comprises Tertiary and Mesozoic basin sediments prospective for sedimentary uranium deposits similar to those found in the world-class uranium producing sedimentary basins in Kazakhstan.

Field work on a ground EM survey to test the presence of one or more interpreted palaeochannels has been completed. Analyses of the results have resulted in minor alterations to the planned rotary-mud drill program targeting the favourable Tertiary and Mesozoic sand sequences.

The ongoing work program has been disrupted by wet weather conditions in the mid-north of South Australia. Work heritage clearances are planned for late in 2010 and rotary-mud drilling has been postponed until 2011.

## 2.5 Frome Basin (SA)

Uranium Equities Limited has consolidated a large strategic ground position totalling 2,397km<sup>2</sup> in one of Australia's most prospective uranium provinces, South Australia's Frome Basin, after concluding a \$5 million farm-in agreement covering a large uranium exploration project and securing a portfolio of adjacent tenements (Figure 2).

The farm-in agreement, with Cauldron Energy Limited (Cauldron) (ASX: CXU), gives UEQ the right to earn up to 80% of Cauldron's West Lake Frome Project, which covers an area of 1,444km<sup>2</sup> by sole funding \$5 million of exploration expenditure over the next five years, and can withdraw after spending \$0.7 million, including a minimum 4,000 metres of rotary mud drilling. The Project will be managed by Uranium Equities.



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Uranium Equities also has 100% owned exploration tenements and exploration licence applications further consolidating the Company's strategic position along the western margin of the Frome Embayment.

The Frome Basin hosts the Beverley, Four Mile and Honeymoon sandstone-hosted uranium deposits. The ground acquired by Uranium Equities is considered to have exploration potential for similar deposits.

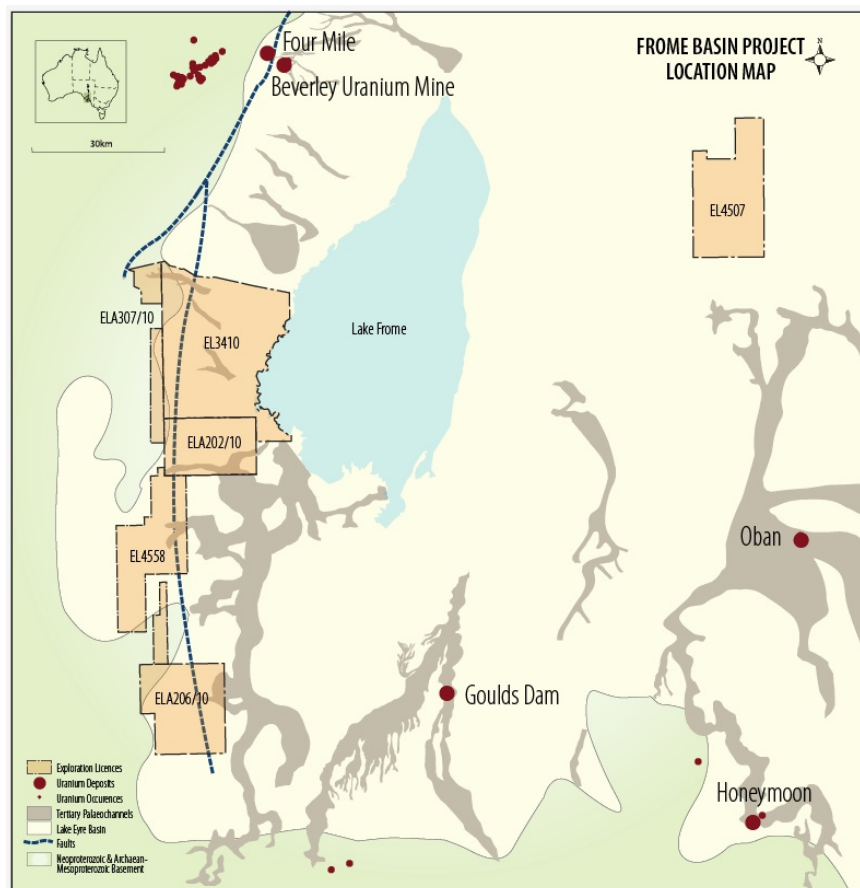


Figure 2 – Frome Basin Land Position

## 2.6 Marla and Oodnadatta Projects

Uranium Equities has applied for two large exploration landholdings in the north of South Australia, covering a total area of 13,963km<sup>2</sup>. The primary target is large, low cost, sandstone hosted uranium mineralisation.

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. Regional data compilation has shown the existence of large unexplored palaeochannel systems evident in Night Time Infra Red (NTIR) imagery, anomalous groundwater uranium geochemistry, major deep-seated structures associated with the margin of the Gawler Craton, uranium rich basement highs, favourable permeable sandstones with clay aquitards, and the presence of basin hydrocarbons.

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These factors all indicate favourable geological conditions exist for the target deposit type, which, when combined with the minimal exploration represents an excellent greenfields exploration opportunity. The company expects the licence applications to approach the granting stage late in 2010.

## 2.7 Rudall River (WA)

The Rudall River Uranium Project (UEQ 40%: Cameco 60% and operator) lies to the east and directly adjacent to the lease containing the Kintyre Deposit (70% Cameco: 30% Mitsubishi Development Pty Ltd). The Kintyre deposit from published reports may host 62 to 80 million pounds  $U_3O_8$  with an average grade of 0.30 – 0.40%  $U_3O_8$ .

The Project tenement applications cover historic uranium prospects with the western tenements having analogous structural settings to that seen at Kintyre. TEMPEST electromagnetic targets have been identified and remain to be systematically tested.

## 3.0 CORPORATE

The Company's consolidated cash position at 30 September, 2010 stood at **\$12.9 million**, inclusive of a restricted \$1.8 million performance bond and \$4.7 million which must be applied to continued development of the PhosEnergy Process. Refer to attached Appendix 5B for further details.

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

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<sup>1</sup> Holes were logged with Auslog total count gamma probes within drill rods and open hole (where possible) with equivalent uranium estimated by Cameco using proprietary gamma logging software. Known issues with the conversion to equivalent uranium include: a) extending beyond the maximum calibrations pits (.92% U<sub>3</sub>O<sub>8</sub>), b) the working limits of the probes is likely to have occurred causing saturation, and c) the z-effect has not been accounted for. Tool serial number S207 (model A635) and S591 (model A031) has been used where the latter is able to resolve higher grades before saturation occurs. The probes were calibrated at the South Australia Glenside test pits in April and February of 2010 respectively.

<sup>2</sup> Holes were logged with Auslog Total Gamma probes in open hole where possible and through the drill rods where holes were blocked. Grades calculated using proprietary Cameco gamma logging software. Tool Serial Number S838; Tools were calibrated in the South Australia Glenside test pits in February 2010.

<sup>3</sup> Uranium (U<sub>3</sub>O<sub>8</sub>) analyses were obtained on-site using a calibrated Niton handheld X-Ray Fluorescence ("XRF") Analyser and should be treated as preliminary only. Results to be confirmed by laboratory analysis. 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.