

Monday, 21 March 2011

**AUSTRALIAN SECURITIES EXCHANGE  
COMPANY ANNOUNCEMENTS PLATFORM  
ASX CODE USA**

## **EXTRACTION OF URANIUM FROM SALINE WATER**

### **Mullaquana Uranium Project Eyre Peninsula, South Australia**

UraniumSA is pleased to advise that it has identified several routes for the effective recovery of uranium from hypersaline waters. Work carried out by Simon Hall, the UraniumSA Metallurgical Manager, has identified and confirmed by testing the ability of several commercially available chelating resins to extract uranium from saline solutions. This is a world-first achievement and places UraniumSA at the forefront of work in this area.

In existing in-situ recovery mining operations conventional resins extract uranium from formation water with salinities in the range 2,000 to 10,000ppm TDS (total dissolved salts). The higher the salinity the less effective the conventional resins become. Formation waters at the UraniumSA Blackbush Prospect in the Mullaquana Project area typically contain >30,000ppm TDS and this has been recognised since discovery as a potentially limiting factor.

UraniumSA received advice in 2008 that chelating resins had potential for the extraction of uranium from saline solutions. In 2010, a comprehensive desktop study confirmed that several manufacturers held chelating ion exchange resins that had potential to be adapted for uranium recovery from acidic high salinity solutions. UraniumSA commissioned laboratory test work on commercially available resins and is providing metallurgical support to companies in their ongoing evaluation in the use of these resins with our saline formation waters. Results have been received for five resins to date with uranium loadings up to 30 g U/l resin being achieved.

Test work on candidate resins is continuing. ANSTO (Australian Nuclear Science and Technology Organisation) have been contracted to conduct bottle roll and column leach tests of typical mineralisation using sea water, and will be trialling selected candidate resins against the resulting pregnant solutions. The best candidate resins from this process will be used in the in-situ recovery field trials scheduled for late 2011.

The Companies whom UraniumSA is presently engaged with and whom have consented to be named in this release are (alphabetically);

- **Clariant (Australia) Pty Ltd.** The Australian subsidiary of Clariant International Limited a worldwide group with specialist expertise in resin technology and manufacture. Their comment on the work is provided below.

- **Clean TeQ Holdings Limited.** An Australian mining and environmental services group with specialist expertise in resin manufacture and technology. ASX listed, code CLQ. Their comment on the work is provided below.
- **Dow Water & Process Solutions.** An international group with specialist expertise in resin technology and manufacture. Their comment on the work is provided below.
- **IBC Advanced Technologies.** An American group with specialist expertise in Molecular Recognition Technology. Commissioned laboratory work has been completed with positive results obtained. Their comment on this work is provided below.
- **LISL Environmental Pty Ltd.** A private Australian company with specialist expertise in resin technology. Laboratory test work is continuing.
- **Purolite International Limited.** An American group with specialist expertise in resin technology and manufacture. Initial evaluation has been completed and laboratory test work commissioned.

The following comments have been provided by participating Companies.

**Clariant (Australia) Pty Ltd** have provided the following text describing their work and results.

"Clariant have been involved in the development of new technology for the selective recovery of Uranium from high chloride solutions in conjunction with UraniumSA and the preliminary testwork has provided very promising results. Uranium in doped seawater has shown to be extracted with recoveries over 99%, extensive additional testwork is planned to follow on from the initial studies."

**Clean TeQ** (ASX code CLQ) have provided the following text describing their work and results.

"Excellent results from laboratory test work have been obtain from Clean TeQ's (ASX: CLQ) R603 resin to recover uranium from hyper saline leach solutions. Uranium loadings in excess of 30 g U/L resin have been achieved from a simulated 100 ppm uranium ISL solution. For more information regarding the work relating to UraniumSA please refer to our separate announcement released to the ASX today."

**Dow Water & Process Solutions** have provided the following text describing their work and results.

"Following excellent results demonstrated from the ion exchange test work by Dow Water & Process Solutions (DW&PS) using Ambersep™ 940U resin to recover uranium from solutions with up to 50g/L chloride, test work by UraniumSA has shown excellent uranium recovery from acid leach liquors with up to 31 g/L chloride. Both companies believe these may be the best results ever achieved for recovery of uranium from high chloride leach liquors and intend to publish the results at the forth coming AusIMM Uranium and ALTA Uranium conferences in two contributions. The presentation by DW&PS will focus on the theoretical background, and the presentation by UraniumSA will focus on the practical test work at UraniumSA."

**IBC Advanced Technologies** have provided the following text describing their work and results.

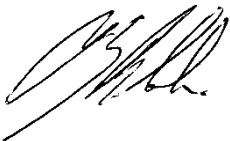
"In its testwork with UraniumSA, IBC demonstrated significantly greater than 99% recovery of uranium at purities exceeding 99.9% from high chloride solutions using SuperLig® 268 (basic feed) and SuperLig® 171 (acid feed). This work was performed in both acidic and basic

matrices with sea water levels of chloride. In previous work at IBC, uranium removal in higher levels of chloride up to its solubility limit was demonstrated. The pure Uranium bound to the SuperLig® is efficiently removed using simple chemistry. We believe the demonstrated process provides a sustainable, environmentally sound and economic alternative that should be given serious consideration.

The demonstrated ability of IBC's Molecular Recognition Technology to efficiently and selectively separate the uranium in high chloride acid or basic leach matrices is an important step in the future commercialization of this technology."

UraniumSA continues to identify and establish relationships with manufacturers who have commercially available resins with potential for the extraction of uranium from saline solution.

In addition, the Company is continuing its research activity and is investigating the application of other technologies for the extraction of uranium from saline solutions. Other potential technical solutions have been identified and are being actively investigated.



Russel Bluck  
Executive Chairman  
UraniumSA Limited



UraniumSA is an Adelaide based uranium only explorer specialising in sediment hosted styles of uranium mineralisation within a substantial portfolio of properties in South Australia’s Gawler Craton.

The Company has discovered sediment hosted uranium mineralisation within its Mullaquana Project, 20km south of the industrial city of Whyalla on the eastern Eyre Peninsula. The Blackbush Prospect has an Inferred Mineral Resource of 45.5Mt at 280ppm eU<sub>3</sub>O<sub>8</sub> with an estimated 12,700t contained U<sub>3</sub>O<sub>8</sub>. The Company is working to advance the Blackbush Prospect to an in-situ recovery field trial as soon as practicable. Continuing drilling to expand the resource base is obtaining intersections significantly above deposit average grade and thickness. The objective is to expand the resource base through incremental addition and new discovery.

Through its own tenure and by Joint Venture the Company has exploration control over what it considers the most prospective portions of the Pirie Basin.

*The exploration results and mineral resources reported herein, insofar as they relate to mineralisation, are based on information compiled by Mr Russel Bluck, Managing Director, UraniumSA Limited who is a Member of the Australian Institute of Geoscientists and has sufficient experience relevant to the style of mineralisation and type of deposits being considered, and to the activity which is reported to qualify as a Competent Person as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2004 Edition). Mr. Bluck consents to the inclusion in the report of matters based on his information in the form and context in which it appears. It should be noted that the abovementioned exploration results are preliminary.*