

20 July 2011

## BIOLEACHING BREAKTHROUGH FOR HÄGGÅN URANIUM RECOVERY

### HIGHLIGHTS

- Highly encouraging results from second phase of bioleach testwork on Häggån uranium-nickel-vanadium-molybdenum-zinc deposit
- Chemical analysis & testwork demonstrated that the mineralisation is amenable to the generation of acid by bacteria, facilitating metal leaching
- First small-scale column leach tests have indicated up to 75% uranium recovery
- Significant extractions of other valuable metals also achieved:
  - nickel up to 65%
  - zinc up to 60%
- Considerable scope for increasing recoveries such as using a finer crush
- Further work planned on this potential low cost process route

*Aura Energy (AEE) is a uranium explorer with advanced projects in Sweden, West Africa and Australia. The company is focusing on two main projects: the Häggån Project located in Sweden's Alum Shale Province, one of the largest depositories of uranium in the world; and the highly prospective Reguibat Province in Mauritania. The company aims to create shareholder value by rapidly establishing resources and then completing feasibility studies on these two projects. Aura Energy is headquartered in Melbourne, Australia.*

For personal use only

Aura Energy Ltd (ASX code: ASX) has received important and better than expected results for bioleach testwork for its giant Häggån uranium deposit in central Sweden (inferred resource estimate 291 million pounds – see statement at the end of release).

Results from the first small-scale column leach tests have indicated up to 75% uranium extraction as well as substantial extractions of other valuable metals.

Aura's Managing Director, Dr Bob Beeson, stated that these results are a major breakthrough for the main project of the company.

"We knew that Häggån mineralisation had the potential to be amenable to bioleaching from research results reported in August last year, but these results are the first confirmation that bacterial heap leaching may be successful.

"To obtain 75% uranium extraction in the first column tests is well beyond our expectations.

"These initial results are a significant step forward for the project and our ongoing programme will focus on improving extractions and determining the optimum conditions that can be used in a mining project," added Dr Beeson.

The company is currently undertaking a multi-directional metallurgical test programme to determine the optimal uranium extraction route for the project, while also trying to maximise the recovery of important co-products.

Aura has previously reported that high levels of recovery (up to 93%) of uranium have been obtained from initial bench-scale conventional acid leaching tests.

### **Bioleach Testwork Overview**

Aura commenced bioleaching testwork with the renowned Parker Cooperative Research Centre for Hydrometallurgy in Perth, Western Australia in late 2009. Bacterial cultures have been established from three sources: the Häggån ore; waters from the Project Area in Sweden; and from a coal mine in Western Australia.

The Alum Shale material at Häggån has characteristics that make it amenable to bioleaching technologies. The high sulphur content, which the bacteria can oxidise to generate acid, and the similarities to ores being processed by bioleaching elsewhere, has been the impetus for this testwork programme.

Bioleaching in heaps is advantageous as the bacteria generate acid from the pyrite in the rocks, limiting the need to purchase acid and so greatly reducing project operating costs. Heap leaching also offers much reduced capital cost.

These initial results obtained by CSIRO scientists working through the world-renowned Parker Cooperative Research Centre for Integrated Hydrometallurgy Solutions

For personal use only

## Bioheap Testwork Objective & Results

The main objectives of these tests were to determine whether naturally occurring bacteria could break down the iron sulphide (pyrite) present to generate sulphuric acid, and whether this acid would aid the extraction of metals.

The tests were carried out in columns 50cm high and 10cm in diameter. Material used was quarter core, with a diameter of less than 25mm.

The tests successfully demonstrated that these objectives have been achieved. The results are from the first phase of column tests, which are designed to simulate conditions in a heap leach process.

Maximum recoveries of metals obtained in the presence of bacteria were:

Uranium	75%
Nickel	65%
Zinc	60%
Molybdenum	25%

The recoveries were significantly higher than reference tests without the presence of bacteria. The tests indicated that acidity increased rapidly when the bacteria were added, and extraction was significantly improved for all metals.

It is anticipated that these recoveries will be improved with further tests. One opportunity for improvement is using a finer particle size, as would be normal for a heap leach operation.

Aura is now planning for a larger size, more comprehensive phase of testing, which will commence later this quarter.

### **For further information contact:**

Aura Energy Limited

Pesel & Carr

Jay Stephenson – Executive Director - 08 9228-0711

Barbara Pesel – 0418 548 808

### **Inferred Resource Statement - Häggån**

Cutoff U <sub>3</sub> O <sub>8</sub> ppm	Size Bt	U <sub>3</sub> O <sub>8</sub> ppm	MoO <sub>3</sub> ppm	V <sub>2</sub> O <sub>5</sub> ppm	Ni ppm	Zn ppm
100	0.81	162	325	2616	318	448

*Size in billions of tonnes and grades of the initial resources for the Häggån Project at 100ppm cut-off grade*

*The information in this report that relates to Exploration Results, Mineral Resources, or Ore Reserves is based on information compiled by Dr Robert Beeson. Dr Robert Beeson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking. This qualifies Dr Beeson as a Competent Person as defined in the 2004 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Robert Beeson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Dr Beeson is a member of the Australian Institute of Geoscientists.*