

## BOSS RECEIVES POSITIVE RESIN TEST RESULTS IN EXPANSION STUDY

### HIGHLIGHTS

- Resin based metallurgical test work shows positive results for application of ion exchange processing at Honeymoon with the potential to significantly reduce operating costs
- Ion exchange processing is the most common method used in ISL uranium operations in Kazakhstan and the USA
- Expansion study also targeting reduction in operating costs through increased volumes
- ANSTO, world leader in uranium processing, is undertaking the resin test work
- Expansion study design work to be undertaken by GR Engineering (ASX: GNG)

**Boss Resources Limited (ASX: BOE)** is pleased to advise that the ongoing test work program associated with the expansion study for the Honeymoon Uranium Project (ASX: 11 May 2016) has shown positive results for the application of an ion exchange flowsheet at the Project.

Executive Director, Grant Davey, commented, "We are encouraged by the positive results received from the initial stages of the resin technology test work program at Honeymoon. We are confident that additional test work will result in further reductions to project OPEX, as we look to identify the optimal pathway for the re-start of the Honeymoon mine.

Furthermore, we are anticipating preliminary engineering designs to be submitted in June and we expect to commence additional resource drilling within our Eastern tenements in quarter 3, 2016."

The test work is being undertaken by Australian Nuclear Science and Technology Organisation ("ANSTO"), a world leader in uranium and ion exchange processing. Following testing on 2 resins, Boss is pleased that the tests to date have confirmed the selectivity and high loading capacity of the weak based anion (WBA) resins in the

presence of high chloride levels and significant iron concentrations. Resin loading and elution tests, along with modelling of the proposed circuits have been completed and these results are being used as inputs for the expansion study. Based on this, we are expecting good results from the continuous loading and eluting test work that has commenced and is expected to confirm the robustness of the processes.

The elution profiles for the two resins tested are shown below in Figure 1. Both resins elute easily, with the WBA resin showing a high concentration eluate can be produced for downstream processing.

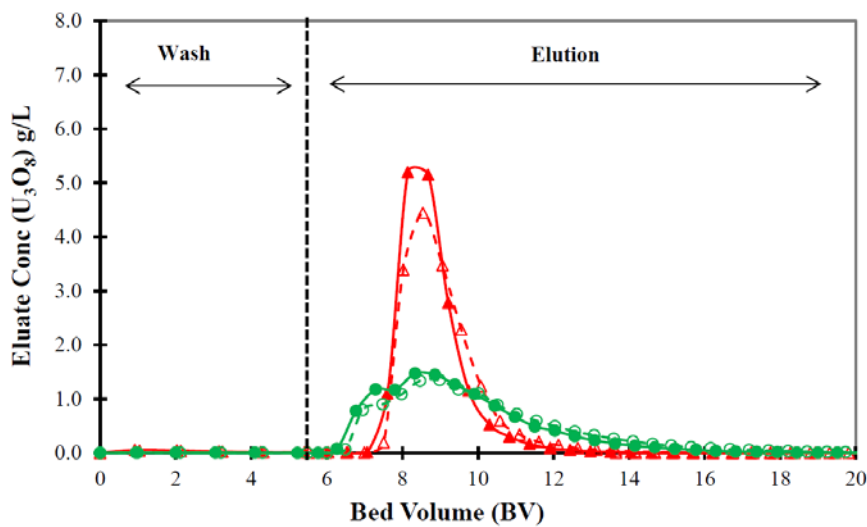


Figure 1: Uranium Elution Profile (Red - WBA resin, Green – Chelating resin)

Figure 2 shows the results from the process modelling work. The results indicate that high recoveries can be achieved at high resin loadings, assuming an increased number of operating resin columns. Preliminary work is positive as it indicates that to achieve >95% recovery @ ~8g/l loading a minimum of seven columns would be required.

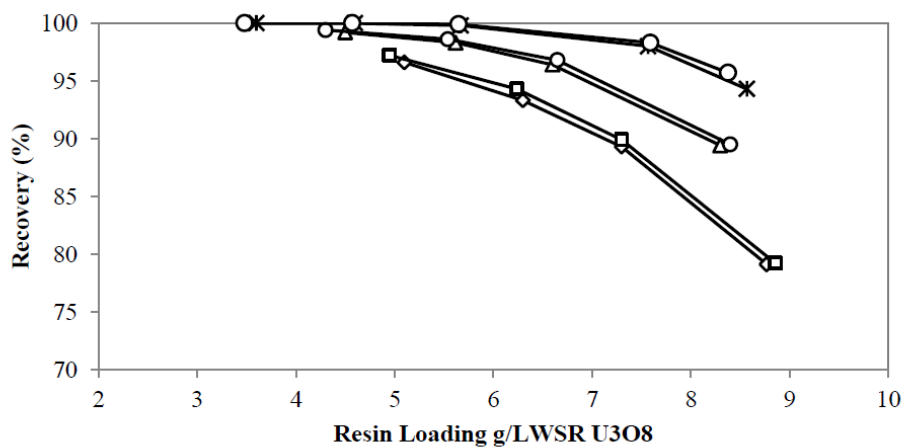


Figure 2: Resin Loading vs Recovery for 3 Different Column Configurations (5, 6 & 7 Columns)

## Honeymoon Expansion Study Overview

The Honeymoon expansion study is focused on selecting the most appropriate technology that will optimise and reduce costs for the planned expansion and minimise start-up issues for the processing plant. The three core processes identified for the study are:

- Optimise and expand the current solvent extraction plant in the near term, with an expansion to include satellite resin plants in the future when the remote satellite deposits come on line.
- Implement a combined ion exchange (resin) and solvent exchange process, with the resins upgrading the solutions prior to solvent extraction purification. Expansion will be based on satellite resin plants.
- Implement an ion exchange only process. Expansion will again be based on satellite resin plants.

One of these will be selected as the “go-forward” case and advanced so that the scope for a prefeasibility study (“PFS”) can be accurately defined. GR Engineering has started the design work on these three options with preliminary results expected by end June.

The decision as to the exact sizing of the expansion will form part of the PFS, but for this initial work a production rate of 2.0 million ramping up to 3.5 million lbs  $U_3O_8$  / annum has been assumed. Boss has identified that a larger processing plant facility, possibly incorporating the use of resin technologies, could significantly reduce the cost of production.

The results from the expansion study are on schedule for delivery in the third quarter, 2016.

### Queries:

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