

Membrane Study delivers cost savings to Etango

Bannerman Resources Limited (ASX:BMN; NSX:BMN) (**Bannerman** or the **Company**) is pleased to announce that the Etango Membrane Study has been completed successfully, delivering substantial reagent/operating cost reductions along with forecast capital savings, the final quantum of which is to be confirmed in the Etango Definitive Feasibility Study Update (**DFS Update**).

HIGHLIGHTS

- Nano-filtration delivers substantial potential cost savings
 - Over 80% of acid recovered, reducing largest reagent cost
 - Corresponding decrease in acid-neutralisation chemical volumes
 - Potential capital savings through reduction in downstream equipment size
- Membrane Study demonstrates nano-filtration benefits to Etango
 - Confirmed recovery of acid for re-use
 - Uranium solution upgraded almost ten-fold
 - Confirmed residual deleterious elements can be efficiently removed before uranium precipitation
- Confirms Ion Exchange (IX) with nano-filtration (NF) favourable over Solvent Extraction (SX)
 - Enables IX/NF process to replace SX in DFS Update
 - Both economic and operational advantages in the IX/NF process route
 - Membrane Study provides valuable process input in DFS Update

In November 2017 Bannerman announced the outcomes of the Etango Processing Optimisation Study (**Processing OS**), which reported a substantial decrease in estimated capital costs and the potential for significant reductions in forecast operating costs at Bannerman's proposed Etango uranium mine in Namibia. The Processing OS also identified the opportunity to incorporate nano-filtration technology in the processing circuit.

In late 2017 a membrane pilot test rig was mobilised to site to undertake an initial test work program, under the supervision of Bannerman's technical team and the equipment vendors. The test work used significant volumes of pregnant leach solution obtained from operation of two cribs at the Etango Demonstration Plant. An IX process was then used to make concentrated eluate solution which was also used in the test work. The initial test work is now complete.

The membrane test work undertaken successfully demonstrated the ability of the nano-technology to recover acid for re-use and upgrade the uranium concentration in the solution almost ten-fold. The testwork on solution coming from the ion-exchange (IX) circuit demonstrated that a volumetric recovery of 90% was achievable. This further resulted in over 80% of the acid being recovered, along with a corresponding decrease in the volume of neutralisation chemicals required. This confirms that Ion Exchange (IX) with nano-filtration (NF) is favourable to Solvent Extraction (SX) at Etango for both economic and operational reasons. The data obtained through the Membrane Study also provides valuable input into the DFS Update, which is being progressed through 2018.

The bulk of the potential savings achieved from using membrane technology are from recovering the majority of the acid for re-use, the consequential reduction in neutralisation chemicals and the reduced equipment size following the membrane plant (given downstream solution volumes are now reduced by around 90%).

The Membrane Study tested the effectiveness of five different membrane types on two different solution streams, both generated from the Etango Heap Leach Demonstration Plant:

1. Concentrated eluate stream from an ion exchange (IX) process; and
2. Pregnant Liquor Stream coming directly from the heap leach circuit (ie without an IX circuit).

The best results were achieved through applying nano-filtration to the concentrated eluate stream, utilising a membrane type that optimally trades-off capital cost of acid-resistance durability in the membranes.

Iron removal was evaluated on the concentrates to remove iron and other entrained species, prior to yellow cake precipitation, confirming the viability of using magnesium oxide (MgO) and/or sodium hydroxide (NaOH) to reduce iron contamination with minimal uranium precipitation. Subject to confirmatory testwork, it is expected that the precipitated iron can be re-used in the leaching circuit, further reducing operating cost.

The extent of forecast operating cost reductions and capital savings will be known following definitive engineering associated with the DFS Update, which is now further enhanced by the quality of data produced by the Membrane Study.

Bannerman's Chief Executive Officer, Mr Brandon Munro, said, *"The amenability of the Etango Project to recent advances in established nano-filtration technology is an exciting outcome that further confirms the robust economics and low technical risk of the Etango project. Our technical team undertook the Membrane Study diligently and comprehensively, utilising the unique advantages Bannerman's Heap Leach Demonstration Plant offers, in particular the access to industrial-scale uranium bearing solution generated from the Etango orebody. I am delighted that this success further enhances Etango, both economically and operationally, as a world-class, highly-advanced and strategically important uranium project."*

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About Bannerman - Bannerman Resources Limited is an ASX and NSX listed exploration and development company with uranium interests in Namibia, a southern African country which is a premier uranium mining jurisdiction. Bannerman's principal asset is its 95%-owned Etango Project situated near Rio Tinto's Rössing uranium mine, Paladin's Langer Heinrich uranium mine and CGN's Husab uranium mine. A definitive feasibility study has confirmed viability of a large open pit and heap leach operation at one of the world's largest undeveloped uranium deposits. From 2015-2017, Bannerman conducted a large scale heap leach demonstration program to provide further assurance to financing parties, generate process information for the detailed engineering design phase and build and enhance internal capability. More information is available on Bannerman's website at www.bannermanresources.com.