



31 May 2016

ASX Announcement

***U-pgrade*TM Metallurgical Testwork on Tumas Project Update to Interim Results**

KEY POINTS

- Marenica's *U-pgrade*TM metallurgical testwork program demonstrates excellent results on Deep Yellow Tumas samples.
- The initial results show that application of Marenica's *U-pgrade*TM process to the Tumas bulk samples can effectively reject up to 98% of the mass and retain greater than 82% of the uranium.
- Indications are that a high grade concentrate in excess of 13,000 ppm U₃O₈ can be produced by application of the *U-pgrade*TM process to the 368 ppm U₃O₈ Tumas ore.
- Significant progress has been made on the crucial de-slime and carbonate removal step and results to date are exceeding expectations.
- Because of the significant mass reduction possible with *U-pgrade*TM, the Tumas project has the potential to have comparatively low capital and operating costs and an accelerated development timeline.

Marenica Energy Limited ("Marenica") is pleased to provide a further update to its recently announced interim results from the metallurgical testwork program currently underway on bulk samples from Deep Yellow Limited (DYL) Tumas Project located in Namibia. (Refer ASX release 20 May 2016)

Marenica advised recently that the interim results were promising because they provided confidence that a high recovery of uranium can be achieved into a low mass, high grade concentrate. An explanation of the process follows to better illustrate these points.

Calcrete ores such as Tumas are characterised by carbonate minerals and fine particulate material. The presence of carbonate minerals excludes the use of acid leaching due to the high acid consumption and thus the conventional approach is to leach these ore types with alkali, a high temperature, slow kinetics, high cost process. The inclusion of fine particulate material in the ores produces materials handling issues, which result in higher operating costs and reduced uranium recovery.

Removal of carbonate minerals produces a concentrate with minimal acid consumers, a suitable feed for the faster kinetics, lower operating and capital cost acid leach process. Removal of the fine particulate material greatly improves the materials handling characteristics, which is a significant advantage for a beneficiation process and subsequent leach and solid/liquid separation stages.

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The interim results determined that >95% of the carbonate minerals could be removed with a loss of <5% of the uranium. The de-sliming step rejected ~27% of the mass as fine particulate material with <7% of the uranium feeding the de-slime stage. These interim results have demonstrated that the critical carbonate and de-slime removal steps of the **U-pgrade™** process do work on the Tumas samples provided, confirming Marenica's previous work on samples from its namesake uranium project in Namibia.

Results to date indicate that a concentrate containing <3% of the ore feed mass, grading >13,000 ppm U₃O₈ and containing >82% of the uranium can be generated from the Tumas samples through application of Marenica's **U-pgrade™** process.

The final **U-pgrade™** concentrate will be suitable for processing using conventional acid leaching and refining technology to produce yellowcake. As an option, the **U-pgrade™** concentrate produced may be safely and cost-effectively transported to third parties for final processing.

The use of the lower cost acid leach process on <3% of the ore mined will result in significant reductions in both capital and operating costs. Capital costs can be further reduced if the **U-pgrade™** concentrate is processed at a third party leach / refinery in Namibia.

Marenica expects to provide a further detailed announcement at the completion of the testwork program which is expected in June 2016.

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