

Marenica *U-pgrade™* Summary – Napperby Samples

Marenica Energy Limited (Marenica) Ore Characterisation testwork on samples from the Napperby Uranium Project to determine the amenability of Napperby ore to Marenica's proprietary *U-pgrade™* process.

Marenica have conducted extensive beneficiation tests on samples from palaeochannel calcrete deposits in Namibia and in particular from the company's Marenica Uranium Deposit on which the *U-pgrade™* process was developed. Whilst the Napperby deposit in the Northern Territory is also a secondary uranium deposit the geology differs to some degree from the Namibian deposits and there was no guarantee that the process would work.

Nine 2kg samples were taken along strike from the Napperby deposit and were combined to form three Lithology composites. In the first step, a full simulated de-agglomeration test was completed on the nine composite feed samples at CSIRO's state of the art facility in Perth that was designed to reflect the nature of the *U-pgrade™* flow sheet, i.e.:

- Scrubbing
- Size Separation
- Processing of coarse fractions
- De-sliming
- Calcite removal
- Carnotite concentration

After the completion of the simulated de-agglomeration, a full ore characterisation programme was completed on each composite to produce a size-assay distribution. This was a critical step to determine the amenability of the Napperby ore to Marenica's proprietary *U-pgrade™* technology. This was followed by detailed mineralogical work on selected size fractions.

The results from the testwork and follow-up analyses are summarised in Figure 1 overleaf. They show a high degree of carnotite (the uranium mineral) liberation, indicating a high propensity to upgrade through Marenica's *U-pgrade™* process.

The bulk of the uranium in these samples reports to the -125µm fraction and the results provided in Figure 1 are for the -125µm particle sizes. However, the bulk of the carnotite remaining in the +125µm fractions is also liberated and would be expected to upgrade substantially.

It was also discovered that one of the deleterious minerals that limits mineral separation (thus negatively affecting recovery) in the case of Namibian calcrete deposits was not identified in the Napperby composites. As a result it could be expected that a higher uranium recovery could be achieved at Napperby than has been achieved on Marenica's Namibian uranium deposit, which was extensively tested and used to develop the *U-pgrade™* process.

For reference, the results achieved on the low grade Marenica deposit ore (94ppm U₃O₈) include a recovery of 73% at a 1.5% mass pull. Due to the high liberation of carnotite, lack of deleterious minerals and higher grade of the Napperby resource it would be expected that recoveries in excess of 80% would be achieved into a very low mass of concentrate. Crucially, the carbonate minerals are removed in the *U-pgrade™* process with the result that a low acid consuming concentrate is produced that can be leached with acid. The alternative, alkali leach process is generally more costly with lower leach efficiency and therefore recovery.

Based on the results of the Napperby ore characterisation testwork Marenica has a high level of confidence that *U-pgrade™* can be successfully applied to this resource.

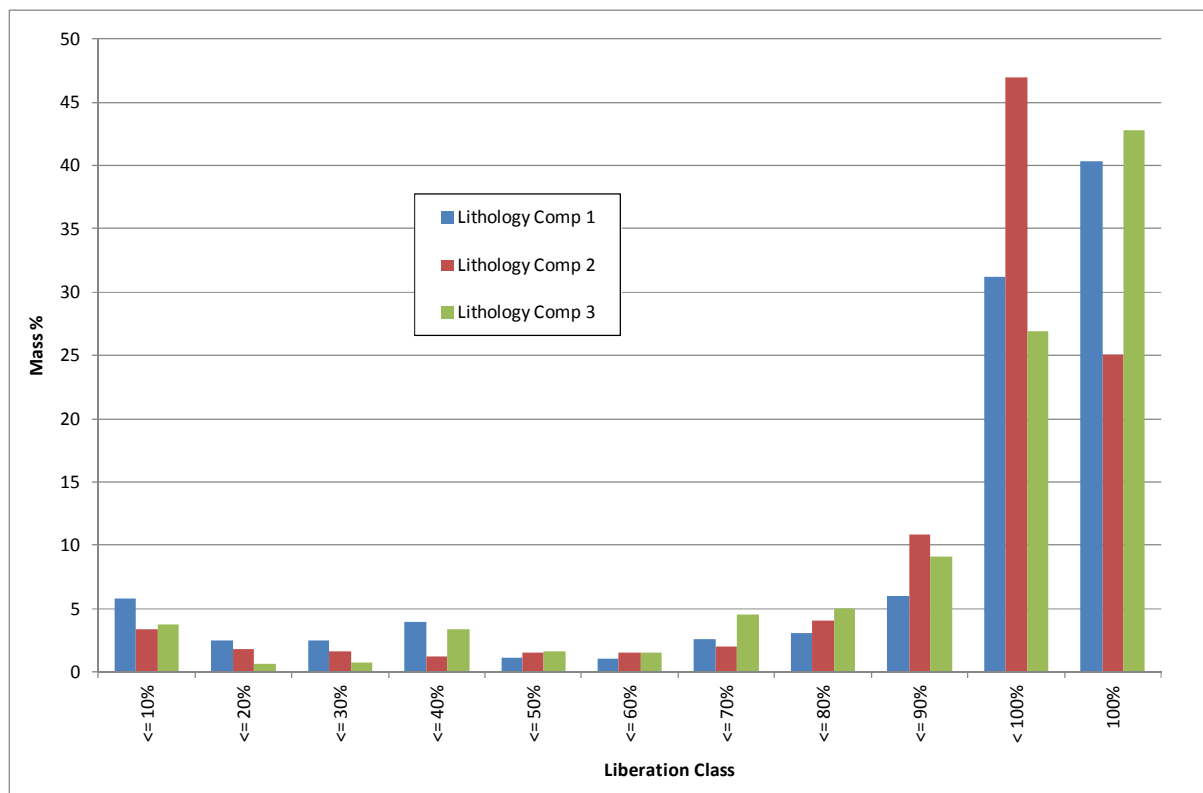


Figure 1: Napperby Ore Characterisation Carnotite Liberation Summary

Disclaimer

It should be recognised that these tests were conducted on a relatively small sample size and that the resulting estimates of ***U-pgrade™*** uranium recovery and performance provided in this report are based on limited metallurgical data that were generated from those tests.