



2nd April 2013

ASX ANNOUNCEMENT

Company Announcements Office
Australian Securities Exchange Limited

Outstanding Upgrade from Metallurgical Testwork on Marenica Uranium Deposit, Namibia

Key Points:

- **Beneficiation testwork has produced a concentrate with a grade of >60 times that of the ore at a recovery of >65%.**
- **The leach feed grade is estimated to be in excess of 5,500ppm U₃O₈ from a previously announced resource grade of 94ppm U₃O₈.**
- **The beneficiation circuit, at a feed rate of 20Mtpa of ore is estimated to produce a concentrate of only 200,000tpa, which could then be fed to an acid tank leach circuit.**
- **Internal financial estimation has determined that the operating costs are expected to be below the current spot uranium price.**
- **Marenica believes that the intellectual property developed on this Project is unique, has a high value and has potential application in the wider uranium mining industry. Marenica has lodged a provisional patent application over this technology.**

In December 2011, the Directors of Marenica Energy Limited (Company) determined that the Marenica Uranium Project in Namibia (Project), with a Mineral Resource Estimate of 276Mt at a head grade of 94ppm U₃O₈ was sub-economic at current and projected uranium prices using conventional processing methods of heap or tank leaching and for the Project to be viable an upgrade of the uranium prior to leaching was required.

A testwork programme commenced in February 2012 to attempt to determine if ore from the Project could be economically upgraded prior to leaching. The goal was to reduce the tonnage to be processed by the leach circuit, being a significant cost for any uranium project.

The testwork programme was split into two phases:

- Phase 1 - scoping level bench top testwork on samples existing in Perth to determine the uranium mineralisation and potential upgrading. The mineralogical testwork concluded that the uranium mineralisation has distinctive characteristics. It occurs as a single mineral, in a distinct size band, is well liberated and is heavier than the surrounding rock. These characteristics present an opportunity to apply well established physical processes to upgrade the uranium. Phase 1 is complete and the positive outcomes were the basis of moving to Phase 2.
- Phase 2 - involved the extraction of representative bulk samples to feed an extensive testwork programme to evaluate the upgrade potential using well-established and comparatively low cost processes, that are scalable to large tonnage operations.

In the ASX Announcement of 21st December 2012 it was indicated that Phase 2 would be complete in the March quarter, which has occurred. The next phase of testing is flowsheet development, which includes optimisation of the flowsheet as well as optimisation of the concentrate upgrade ratio and maximising the uranium recovery to concentrate. Marenica is also testing the variability within the resource.

Scientists from the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO) who are world leaders in their field, have provided and continue to provide assistance in the testwork programme.

The upgrade occurs in two stages, a primary and secondary upgrade. Primary upgrade testwork has produced upgrade ratios of between 3 and 4 and the secondary upgrade produced a grade increase of 15 to 25 times. The total upgrade ratio of the primary and secondary upgrade stages is therefore >60 times at a recovery >65%, which is above Marenica's expectations.

The upgrade process has been very successful and has reduced the leach feed to about 1% of the beneficiation plant feed due to significant rejection of the major gangue mineral of calcite. This successful calcite rejection has also enabled the proposed leach circuit to be changed from an alkali leach (with higher operating temperatures and slower kinetics) to an acid leach (at ambient temperature and rapid kinetics), reducing expected capital and operating costs. The leach feed tonnes are therefore expected to be only 200,000tpa from 20Mtpa mined, and the leach feed grade is expected to be >5,500ppm U₃O₈.

The rejection of 99% of the mass using low cost mechanical processes are also expected to result in a relatively benign environmental impact, with only 200,000tpa expected to be leached. The unit processes used in the beneficiation circuit testwork are well established and commonly used in the wider mining industry and at scales of operation suitable for the Marenica Uranium Project.

An internal financial model has been developed which shows that the operating costs are expected to be below the current spot U₃O₈ price of US\$42.25/lb (as at 28th March 2013).

The metallurgical testwork programme is monitored and reviewed by a committee of independent industry experts and Company personnel. The committee includes senior CSIRO employees, consultants with extensive experience in upgrading minerals using similar unit operations tested on the Marenica ore, extensive southern African experience in uranium as well as other commodities and development of new technologies.

The Company continues to work on optimising the beneficiation flowsheet to concentrate the uranium, an approach it believes is unique in the uranium industry and over which the Company has filed a provisional patent application.

By rejecting 99% of the original mass prior to the leaching circuit, the estimated capital and operating costs are significantly lower than those which would typically be expected to process the ore, thereby significantly enhancing the potential Project's economics.

Background

Marenica Uranium Project – Namibia

Marenica Energy Limited – 75%

Xanthos Mining Limited – 20% (Namibian)

Millennium Minerals – 5% (Namibian)

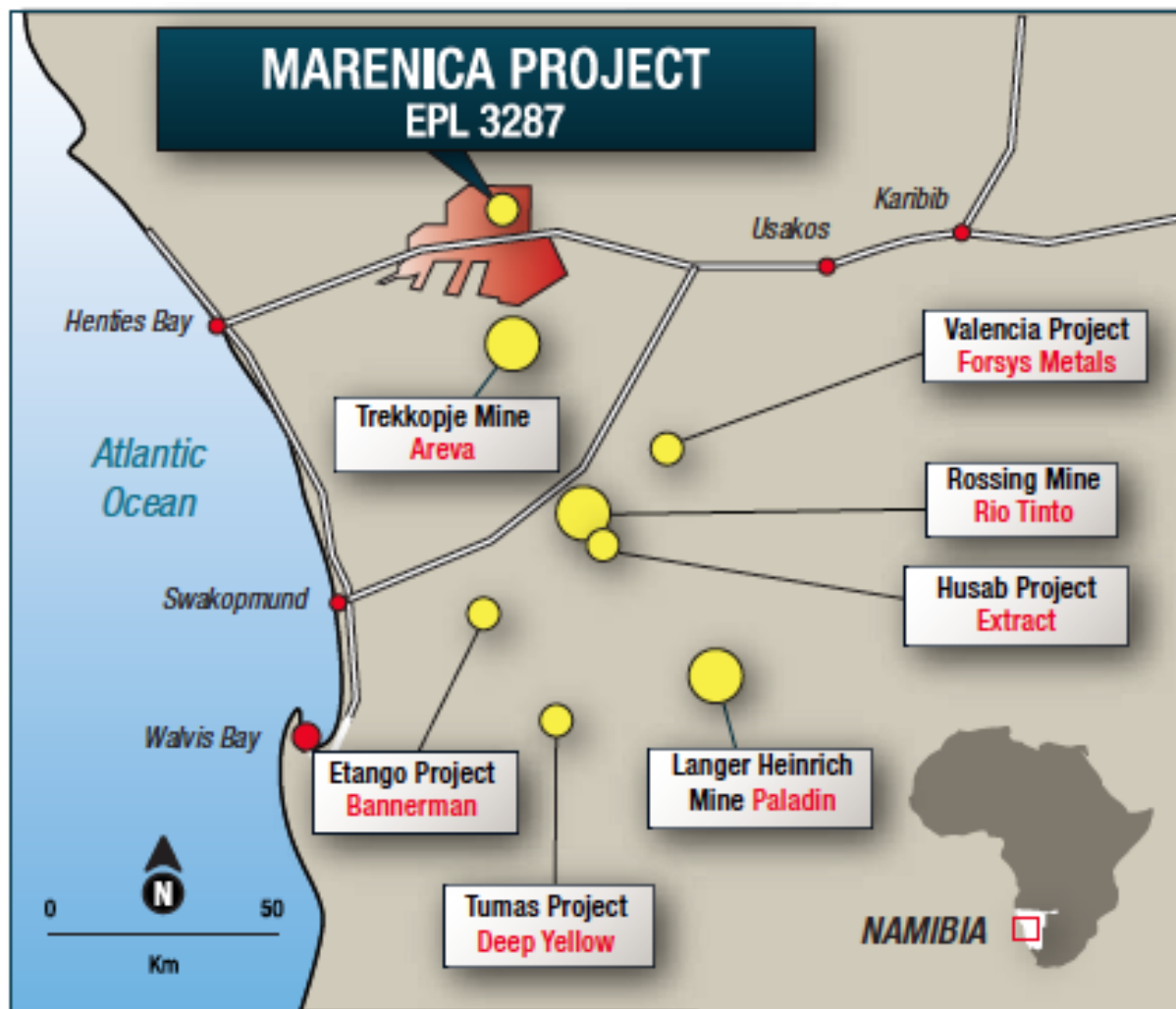


Figure 1: Location of the Marenica Project and major uranium deposits Namibia.

Exclusive Prospecting Licence (EPL) 3287 covers 527km² and lies in the same uranium province as the Rossing and Langer Heinrich uranium mines and immediately north of the large Trekkopje Mine. Resource Area EPL 3287 was initially granted for a 3 year period commencing 30 November 2005 for Base and Rare Metals, Precious Metals and Nuclear Fuel Groups of Minerals has been renewed for a 2 year period in November 2008 and again in 2010. An EPL license renewal was granted in November 2012 for a period of 2 years.

In November 2011 Marenica Energy Ltd delivered a Resource, based on historical and new data. The Company delineated a uranium resource at the Marenica Deposit totalling 276Mt grading 94ppm U₃O₈

comprising of an Indicated Mineral Resource of 26Mt grading 110ppm U₃O₈ and an Inferred Mineral Resource of 250Mt grading 92ppm U₃O₈ for a combined total of 57 million pounds of contained U₃O₈. The uranium resource at the MA7 Deposit totals 22.8Mt grading 81ppm U₃O₈ all in the Inferred Mineral category.

ENDS

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The information in this report which relates to Mineral Resources is based upon information compiled by Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Ian Glacken is an employee of Optiro Pty Ltd and 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 to qualify as a Competent Person as defined in the 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Glacken consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.