



ASX / Media Release – 7 March 2012

Marenica Reports Positive Outcomes from Technical Review of Marenica Uranium Deposit, Namibia

New work identifies potential low capital and operating cost processing breakthrough

Key Points:

- Technical Review indicates that the Marenica uranium deposit should be amenable to lower capital and operating cost metallurgical processes than those previously considered.
- If these processes, which are widely used in other industries, are successfully implemented, they would reduce the amount of material to be treated and lower the capital and operating costs compared to conventional uranium concentration process – resulting in enhanced project economics.
- Detailed mineralogical testwork concludes that the uranium mineralisation at Marenica has distinctive characteristics including that the uranium occurs as a single mineral, in a distinct size band, is well liberated and is heavier than the host rock.
- The Board believes that these characteristics present an opportunity to significantly concentrate the uranium, targeting levels in excess of 30 times at high recovery.
- Board approves program of further metallurgical testwork on bulk-sample of Marenica ore, to be undertaken in two phases over six months to prove these concepts.
- Subject to the success of this work, the Board has committed in principle to a Project Scoping Study based on the new processing route.

International uranium company Marenica Energy Limited (ASX: MEY – “Marenica” or “the Company”) is pleased to report on a series of positive outcomes from a Strategic Technical Review (“Review”) of its 75%-owned **Marenica Uranium Project** in Namibia initiated late last year.

The Review – which was conducted by a Technical Steering Committee comprising Marenica personnel and recognised independent industry experts – has concluded, from detailed mineralogical testwork, that the Marenica deposit has a number of distinctive characteristics which may make it amenable to the use of low capital and operating cost processes to recover the uranium.

These techniques are not usually used in the uranium industry. They are, however, well established, conventional metallurgical processes used extensively in other industries.

Successful application of these techniques to the Marenica ore will significantly upgrade the uranium concentration. In turn, this would reduce the amount of material to be treated and lower the capital and operating costs for processing, potentially resulting in significantly enhanced project economics.

The Board of Marenica views the results of the Review as a significant technical and strategic breakthrough for the Marenica Project, paving the way for an updated Project Scoping Study to unlock the value of this significant asset.

Background to the Strategic Technical Review

The Marenica uranium deposit, located approximately 90km NE of Swakopmund in Namibia, Southern Africa, comprises a total JORC compliant Indicated and Inferred resource of **276Mt @ 94ppm U₃O₈ for 57Mlbs contained U₃O₈**.

The deposit is located in a world-class uranium province (the fourth largest uranium-producing region in the world), in close proximity to a series of world-class uranium mines such as Rossing and Langer Heinrich.

The region also hosts numerous advanced projects under development and prospective exploration projects (see Figure 1).



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

Since acquiring the Marenica Project in 2006, the Company has conducted extensive exploration and resource drilling to establish the current resource inventory. In the context of the region's resources, Marenica represents a large-tonnage, low-grade deposit, comparable to Areva's Trekkopje deposit, located 30km to the south.

The Company has also completed some metallurgical testwork (including assessment of various upgrade options), as well as scoping assessment of various conventional uranium process routes.

Studies using established uranium metallurgical process routes (heap-leach, tank-leach, in-situ leaching) have led the Board to conclude that, under current and projected future uranium prices, the Project is unlikely to be economically viable.

Accordingly, the Board decided that continued spending on resource development and conventional metallurgy could not be justified and, in late 2011, initiated the Review of the Project.

A timeline outlining the development of the Marenica Project is presented in Table 1 below:

Table 1: Management history of the Marenica Uranium Project

Date	Activity	Outcomes
2006	Project acquisition, establishment of joint venture	
2007-2011	Resource drilling and development	Resource of 276Mt @ 94ppm U ₃ O ₈ for 57Mlbs contained U ₃ O ₈
2009-2010	ANSTO scoping metallurgical testwork (mineralogy, beneficiation and alkali tank-leach and heap-leach amenability)	Results fed into SRK Scoping Study
Q3 2010	SRK Scoping Study	Alkali heap-leach process proposed
H2 2010	Board restructure	Enhanced technical skills at board level
2010-2011	ALS-AMMTEC metallurgical testwork	Agglomeration and heap-leach reagent consumptions extremely high
Q3 2011	Scoping Study and optimisation by Hydromet / Murray Hill and Optiro	Heap-leach or in-situ leach not viable. Considered advanced beneficiation and tank leach process
Q4 2011	Board considers outcomes	Conventional uranium processing unlikely to produce an economic project
Q4 2011	Board commissions Strategic Metallurgy (Gary Johnson) to complete Strategic Technical Review	Unique mineralogy identifies opportunities yet to be evaluated
Dec 2011	Board establishes Technical Steering Committee (TSC) of Marenica personnel and industry experts	Doug Buerger, Chairman (non-executive Director) Gavin Becker (non-executive Director) Murray Hill (Metallurgical Consultant) Gary Johnson (Strategic Metallurgy) Dr John Farrow (CSIRO) Dr Erik van Noort (Chief Geologist)
Jan 2012	TSC commissions CSIRO testwork program	Unique mineralogy confirmed and quantified – see Table 2.

Technical Review Outcomes

The TSC has completed detailed mineralogical testwork on the Marenica Uranium ore. This work has found that the uranium mineralisation in the Marenica deposit has distinctive characteristics.

It occurs as a single mineral, in a distinct size band, is well liberated and also heavier than the surrounding rock.

These characteristics present an opportunity to use low capital and operating cost processes to recover the uranium by extracting and concentrating the uranium using techniques such as screening and de-sliming, gravity separation, magnetic separation and flotation.

After reviewing these findings, Marenica commissioned the Australian Government owned Commonwealth Scientific and Industrial Research Organisation (CSIRO) to further investigate the mineralogy.

The CSIRO's findings and the opportunities for further assessment are summarised in Table 2:

Table 2: Mineralogical characteristics of Marenica ore

Mineralogical Characteristic	Comments	Opportunities
Single uranium mineral	Carnotite, SG of 4.2	1 mineral, simplifies process
Carnotite extremely well liberated	Virtually no composites of carnotite and gangue	Good opportunities for success with physical separation techniques and potential for high-grade concentrates
Carnotite is paramagnetic	Vanadium component of carnotite	Magnetic separation techniques
Distinct size department	Vast majority of carnotite confined to the -125+5 micron size range	Upgrade by size separation of both coarse and ultrafine fractions
		Ideal size range for flotation - carnotite flotation collectors identified in literature search
Significant density contrast from gangue	Carnotite SG of 4.2, gangue SG of 2.5-2.7	Amenable to gravity separation

Unit processes identified for detailed evaluation include:

- Screening
- De-sliming
- Gravity separation
- Magnetic separation
- Flotation

These are well-established, comparatively low-cost techniques that are scalable to large tonnage operations. Such concentration techniques combined and/or, individually, will result in an upgrade of the ore. The Board believes that the upgrade should be very significant (targeting levels in excess of 30 times) at high recovery.

Next Steps

The Board has approved a program of further metallurgical testwork to be undertaken on a bulk-sample of Marenica ore. This work is to include gravity and magnetic separation, flotation, screening and de-sliming and is expected to take 6 months. It will be undertaken in two phases:

- Phase 1 – scoping level bench top testwork on small samples masses available in Perth to assess the unit processes of magnetic separation and gravity separation. A literature search will be completed on the flotation process with reagents sourced. A second channel sample will be tested at CSIRO to compare the uranium mineralogy. This phase will provide an indication of the suitability of each of these unit operations ahead of Phase 2.

- Phase 2 – a representative bulk sample will be obtained from a costean through the ore zone. This will provide a greater sample mass to feed extensive testwork programmes to further develop each of the proposed unit operations.

If this work is successful, the Board has agreed in principle to a Project Scoping Study to confirm the viability of the Project.

The Board believes that, with substantial upgrades outlined above, the Project economics would be materially improved.

Management Comment

Marenica's Chairman, Mr Robert Pearce, said: "This is an exciting and important development which has the potential to significantly increase the value of the Marenica uranium deposit."

"The application of these processing techniques which are not normally used in uranium mining may provide the key to unlocking the value of a large, low-grade deposit like the Marenica deposit, with possible application to other similar deposits around the world."

"The Board has also given in principle approval to a Project Scoping Study subject to a successful outcome to the testwork."

"The Board is assessing the capital requirements to take the Project through the first two metallurgical testwork phases and, if successful, the Project Scoping Study". Shareholders will be advised of the capital raising plans shortly."

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