



ABN 48 116 296 541

## EXCHANGE RELEASE

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### SANDPIPER PHOSPHATE PROJECT NAMIBIA PILOT PLANT PROGRESS

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4 November 2011

Minemakers Limited (“ASX & TSX: MAK; NSX: MMS”), Union Resources Limited (“ASX: UCL”) and Tungeni Investments c.c. (“Tungeni”), the joint venture participants in the company Namibian Marine Phosphate (Pty) Limited (“NMP”), are pleased to announce further progress on the Definitive Feasibility Study (“DFS”) for the Sandpiper Phosphate Project in Namibia. We note that the DFS has not been delivered to date, and that the results discussed herein are preliminary in nature.

The construction and commissioning of the phosphate beneficiation pilot plant at the MINTEK facility in Johannesburg were successfully completed, meeting the objectives of:

1. achieving the key intermediate step of progressing from the laboratory defined process flow to a commercial scale beneficiation plant capable of producing consistent quality product; and
2. producing a beneficiated product (phosphate rock concentrate) for potential customers to test in their own facilities.

The photographic summary presented here highlights the beneficiation process which employs conventional equipment to carry out a relatively simple process comprised of particle sizing, attrition and dewatering circuits.

The run of mine (“ROM”) feed from the initial target mining area in the Sandpiper deposit recovered during the recent bulk sample programme is the primary feed to the pilot process plant. Figure 1 shows the ROM feed, recovered directly from the seabed.



*Figure 1: ROM feed material*

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The first stage of the pilot process comprises primary screening of the material to a sub 1mm size fraction, which involves the mixing of the bagged ROM feed with water to assist the sizing by vibrating screen.



Figure 2: ROM feed into the screening process



Figure 3: Screen used to remove the +1mm coarse material



Figure 4: +1mm coarse shell waste material

Once the primary screening is complete, the sub 1mm material is passed to hydrocyclones for de-sliming to remove the sub 100 micron material. Following de-sliming, the feed material (-1000 +100 micron) proceeds to a gravity spiral separation process which separates fine shell from the phosphatic material.



Figure 5: Spiral in operation. Beneficiated product is the dark colour (inside) and the shell fraction is the light colour (outside).



Figure 6: Fine waste material

The resulting feed is then passed through an attrition process to improve grade and quality of the concentrate.



*Figure 7: Attrition process*

Following the attrition cycle, the concentrate material is washed in fresh water to remove the chloride (from sea water), then dewatered and dried to produce the final concentrate.



*Figure 8: Final concentrate from Sandpiper, referred to as "Namphos" phosphate concentrate*

The pilot plant has been operated under the supervision of the Bateman engineers using the MINTEK laboratory facility and employees. The initial results achieved to date have met upper expectations to produce final beneficiated product of approximately 28%  $P_2O_5$  from a ROM feed grade of approximately 18%  $P_2O_5$ .

The pilot plant is being operated on a 24 hour operation cycle over the next two weeks to complete the DFS work programme and will then continue for a further period to complete processing of the full 265-tonne bulk sample recovered. The pilot plant is expected to produce approximately 125 tonnes of phosphate rock concentrate product in total, which will be available for supply to those potential end users.

Andrew Drummond  
Managing Director



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The qualified person in relation to this press release, Andrew Drummond, who is Managing Director of the Company and a Fellow of The Australian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Drummond has sufficient experience deemed 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' and a 'Qualified Person' as defined in National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI43-101"). Mr Drummond consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

For further information regarding the Sandpiper Marine Phosphate Programme, please refer to Minemakers' NI43-101 compliant technical report entitled "Updated Estimation of Phosphate Resources for the Sandpiper Project in EPLs 3415 and 3323, Namibia", dated March 11, 2011 and available on SEDAR at [www.sedar.com](http://www.sedar.com).

**Cautionary Statement Regarding Forward-Looking Information**

All statements, trend analysis and other information contained in this report relative to markets for Minemakers' trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Forward-looking statements are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking statements. Forward-looking statements are based on estimates and opinions of management at the date the statements are made. Minemakers does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Investors should not place undue reliance on forward-looking statements.