

## **DRAFT ASX RELEASE**

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# Toro Commences Pilot Plant Testwork Program for Wiluna Uranium Project, WA

Toro Energy Limited (ASX: TOE, "Toro") has commenced a program of pilot plant processing test work as part of its continuing assessment of the Wiluna Uranium Project. The processing plant testwork involves the use of ore samples taken during last year's resource trial pit and is being undertaken off-site in compliance with all relevant government approvals.

This follows the successful completion of detailed benchscale processing testwork which has confirmed the viability and basic parameters of the alkaline agitated leach process.

The program of Pilot Testwork involves a Pilot Plant Process test, which will run a continuous processing operation on a pilot scale (approximately half tonne of ore per day / 20 kg ore per hour) to:

- finalise design parameters under continuous flow conditions for final feasibility;
- produce sample product for Converter delivery and sample testing; and
- optimisation of operating parameters.

Results from two 10 day series of continuous process runs are expected by the end of August.

### **Agitated Leach Benchscale Process Testwork**

The completion of significant additional development laboratory test work during the first half of this year, using typical samples from the resource test pit and local saline ground water, have re-affirmed the basic process route and its viability. In particular, the direct precipitation method of extracting the uranium from a saline leach solution confirms that no ore washing with fresh water is needed, and that local highly saline water can be used. This reduces environmental impact and costs by reducing the need for additional fresh water.

Additional test work was performed to evaluate the possibility of incorporating pressure leaching and leach discharge filtration in the Wiluna process circuit. In addition a large scale (41 kg) leach was performed to provide samples for tailings characterisation, uranium fate transport, radiation emanation and solid liquid separation test work and analyses.

A summary of the testwork results received include:

- The nature of the Wiluna material and the Vermeer cutting mining method, provides a plant feed with little material larger than 100mm. This eliminates the need for primary crushing and
- A grind size of 400 um (P80) at 90°C provides excellent uranium dissolution into leach. Previously 300 um at 95°C.
- Vanadium rejection during SDU precipitation was very efficient with >60% achieved for all
- Grinding media and liner consumption are expected to be low due to the low abrasion index.
- Precipitation efficiency of >96% was achieved.



 Overall uranium recovery under test was slightly impacted by reduced thickener underflow densities and increased dissolved loss of uranium. However the recovery level remains high and at similar levels to other alkaline leach projects.

Overall this comprehensive testwork on the "typical" sample obtained from the resource test pit in 2010 provides excellent confirmation of alkaline agitated leach process route selected. A comparison of results obtained from the 2009 Optimisation Study and the 2011 benchscale testwork can be found in Appendix 1.

Variability testwork on thirty-one sonic core composite samples from the Centipede and Lake Way orebodies was commenced during the quarter. Test work will cover mineralogy, comminution and leaching to evaluate and prove the performance of the agitated leach processing circuit under variable mineralogy and lithology.

## **Pilot Test Program**

A program of Pilot Plant Processing Testwork is now underway, with the first fill section complete and continuous operation now occurring.

The results of this program will give improved confidence in the selected process route, confirm recoveries and operating cost estimates, and provide UO4 product samples. The final product samples will be used for Converter testwork and delivery account set up.

The pilot campaign will provide steady state products for further optimisation test work of solid liquid separation circuits and UO4 refining. The equilibrium conditions will provide representative samples for radio-isotope deportment studies, for which ANSTO has been contracted.

Significant process engineering information will be developed for use during the planned engineering component of the Definitive Feasibility Study.

#### **Project Progress**

The Company is also advancing its Wiluna Uranium Project in the following areas:

- ERMP documentation now released for public review
- Resource upgrade for the Wiluna Uranium Project due in August
- Resource increase for Wiluna Regional resources due in August
- Planned commencement of the engineering study and costing for Definitive Feasibility Study by October this year, with completion anticipated in April 2012

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Toro Energy is a modern Australian uranium company with progressive project development, acquisition and growth. The Company is based in Adelaide, South Australia with a project office in Perth, Western Australia.

Toro's flagship and wholly-owned Wiluna uranium project (includes existing mining lease) is 30 kilometres southeast of Wiluna in Central Western Australia.

Wiluna contains two shallow calcrete deposits, Lake Way and Centipede, with prefeasibility and optimisation studies completed and a definitive feasibility study underway. Toro has commenced the Approvals process targeting the Company's first uranium production by late 2013.

Toro has three other exploration and development projects in Western Australia, and owns uranium assets in the Northern Territory, South Australia and in Namibia, Africa. Toro is well funded with a supportive major shareholder in OZ Minerals.

www.toroenergy.com.au



Appendix I

Comparison Table – 2009 Optimisation Study test results compared with 2011 Benchscale test results

Description	Unit	Optimisation study	Benchscale test
U Blend Grade (trial pit)	g/t	466	489
Leach grind size	P <sub>80</sub>	300	400
Leach temperature	°C	95	90
Leach Na <sub>2</sub> CO <sub>3</sub> concentration	g/L	27.5	35.0
Leach Density	% solid	35	35
Leach dissolution time	hours	24	16-24
Uranium dissolution efficiency	%	90	90
Vanadium dissolution	%	85	~45
Solid Liquid separation		7 Stage CCD	7 Stage CCD
CCD 7 underflow density	% solid	50% (assumed)	45% (Tested)
CCD dissolved loss	ppm	15.6	33.4
SDU feed PLS uranium concentration	ppm	342	363
SDU temperature	°C	80	80
SDU residence time	Hours	6	6
Barren SDU concentration	ppm	17	<10
Overall circuit recovery	%	86 (Metsim)	83 – 86 (Tested)