

ASX RELEASE
30 January 2018

Phase Two Beneficiation Development Test Work successful and confirms potential substantial cost reductions for the Wiluna Uranium Project

Toro Energy Limited (ASX: **TOE**) is pleased to announce the interim results of phase two of the Beneficiation and Process Design studies ('Studies') for the Company's 100% owned Wiluna Uranium Project in Western Australia (refer to **Figure 1**). These results further confirm opportunities to substantially reduce the capital and operating costs of the processing facility that was successfully tested in the scoping study.

The results show that the re-design of the process flow sheet, which significantly reduces the capital and operational cost of the proposed hydrometallurgical plant for the Wiluna Uranium Project, continues to be validated at scoping level testing.

Major successes of the phase two test work, which have the potential to significantly enhance the technical and financial feasibility of the Wiluna Uranium Project, so far include:

- **The de-sliming was confirmed to be robust on all ore types and thus provided a beneficiated ore feed amenable to all other proposed downstream processing techniques in the redesigned plant and flowsheet, that have previously been shown to reduce the overall capital and operating costs of the processing circuit;**
- **Clay80 ore, one of the dominant ore types in the Wiluna Uranium Project, continued to perform above expectations in terms of producing a low mass, high grade uranium concentrate after screening and de-sliming;**
- **Successful testing of larger screen sizes has reduced the need for specialised screening equipment;**
- **Vacuum filtration of Clay80 ore after beneficiation successfully removed saline water from the de-slimed concentrate at filtration rates equal to or greater than those achieved in the preliminary test work, which confirms the potential for a significant reduction in reagent use and the potential to replace direct precipitation with ion exchange in the processing circuit;**
- **Heavy Liquid Separation ('HLS') testing has indicated that a gravity separation process will be an efficient method of rejecting two major consumers of reagents in the leach, gypsum and celestine, from the coarse component of the two main ore types; and**
- **Gravity separation presented itself as a potentially effective method of further beneficiating the low grade coarse component of already beneficiated ore.**

Metallurgical consultants Strategic Metallurgy were engaged in 2017 to further develop the processing concepts that were successfully tested in Toro's preliminary studies conducted in 2016. The main focus of the work was to test for variability in the behaviour of each individual ore type identified in earlier studies, to the proposed beneficiation method, as well as other processing techniques, such as filtration. The earlier studies highlighted a major opportunity to reduce both the capital and operating costs of the

proposed hydrometallurgical plant for the Wiluna Uranium Project through a re-design of the plant and processing flowsheet (refer to **Figure 2**). The key changes were:

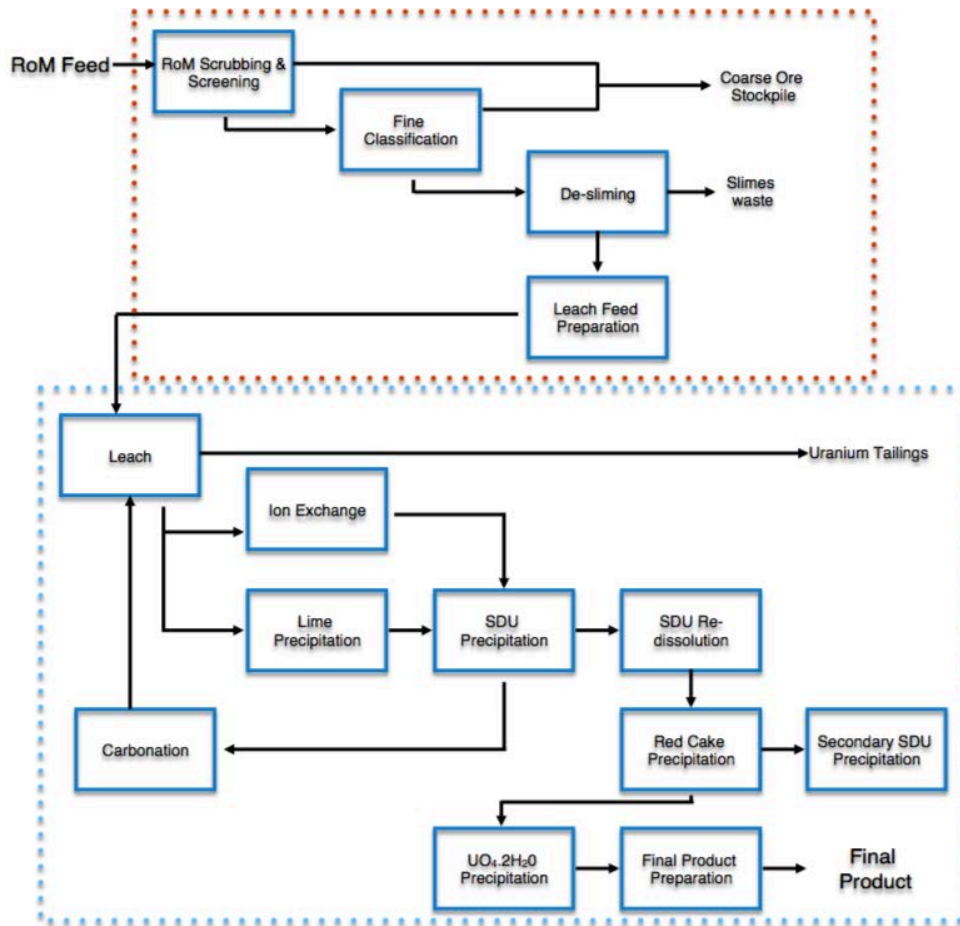
- the introduction of a beneficiation circuit that used simple screening and de-sliming to concentrate uranium;
- a filtration and washing step which removes saline water and produces a drier leach feed thereby reducing reagent consumption;
- a unique wash water recirculation to increase reagent utilisation and reduce reagent losses; and
- the introduction of ion exchange which removes the need for evaporation ponds.

Figure 1: Wiluna Uranium Project - Location



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Figure 2: Potential revised Wiluna Uranium Project process flow sheet



In the second phase of beneficiation and development work a total of 18 ore samples were selected for testing, consisting of 1 to 1.5m full drill core samples, and selected to represent the major ore types identified previously within a range of head grades, geographic location and dilution of ore types.

A number of the Lake Maitland samples tested were intentionally of a blend of ore types that may be encountered in a 'bulk mining' situation, a mining method that could have significant cost advantages over the current mine by bench proposal scenario.

A significant outcome of the beneficiation testing is confirmation that all ore types are amenable to de-sliming, with most results exceeding expectations. This provides confidence that this process is robust and applicable to all ore types across all deposits within the Wiluna Uranium Project and importantly, allows for filtration of leach feed no matter the ore type.

The lowest mass highest grade uranium concentrates continue to be from beneficiating the Clay80 ore, a major component of the project's resources and the dominant ore type of the Lake Maitland deposit. Clay80 ore 'blends' and semi-consolidated nodular ('SCN') ore did not perform as well. These ore types

will be considered for further testing in the future. Importantly testing of larger screen sizes (nominally 180-500 micron) prior to cycloning has reduced the need for specialised screening equipment. The optimum screen size for beneficiating all variables of Clay80 ore will be larger than in the scoping study.

Table 1: Summary of “best” Lake Maitland concentrates with de-slime and screen, includes Scoping Study results

Lake Maitland Sample Details				Concentrate Produced		
Deposit & ID	Dominant Lithology	Head (U ppm)	Optimum cut size (µm)	Weight Distr (%)	Grade (U ppm)	Uranium Recovery
Lake Maitland Mets061 *	Clay80	1,782	125	23.2	6,970	91%
Lake Maitland Mets062	Clay80	427	180	33.1	1,035	80%
Lake Maitland Mets065	Clay80	621	500	39.9	1,371	88%
Lake Maitland Mets079*	Clay80	596	2,000	59.8	815	82%
Lake Maitland Mets085	Clay80	758	180	44.7	1,058	62%
Lake Maitland Mets088 *	Clay80	192	75	23.2	608	73%
Lake Maitland Mets089	Clay80	801	No cut	82.9	950	98%

* Scoping Study sample

Gravity separation by the HLS technique was also tested for its potential to reject gypsum and celestine (two minerals that have been shown in the past to limit uranium extraction in the leach as well as being high reagent consumers therefore representing high processing cost components of the ore) at the beneficiation stage. Gravity separation proved a highly efficient means of rejecting the majority of gypsum and celestine present in coarse material both in Clay80 and SCN ore types. This potentially reduces the amount of mining selectivity required to avoid ore loaded with gypsum and celestine and ultimately could increase the amount of ore sent to the mill.

Gravity separation also presented itself to be a potentially effective method of beneficiating the low grade coarse component of already beneficiated ore, particularly the >500 micron component. The results varied in terms of uranium recovery and mass rejection but tests always yielded a high grade concentrate.

Table 2: Results of gravity separation testing of low grade >500 micron component of already beneficiated ore

Sample ID	Ore Type	Feed Grade of Size Fraction	Concentrate Produced	
		U ppm	Grade U ppm	U Distr. %
Mets062 >0.5mm	Lake Maitland Clay80	119	14,877	90.3%
Mets073 >0.5mm	Lake Maitland SCN	825	565	4.9%
Mets075 >0.5mm	Lake Maitland Clay80	930	22,357	12.6%
Mets032 >0.5mm	Centipede SCN	994	133	0.1%
Mets002 >0.5mm	Centipede SCN	1,388	8,242	14.1%

In the preliminary test work filtration was found to be a critical step in the beneficiation process as it allowed for the washing of leach feed solids and the removal of the inherent high salt content, ultimately leading to significant cost savings downstream. Results of vacuum filtration test work in phase two, conducted on two Clay80 ore samples, have demonstrated that concentrates can be washed efficiently at filtration rates equal to or greater than those achieved in the Scoping Study. Results indicate that further improvement on these results is probable.

Table 3: Results of vacuum filtration testwork conducted on two Clay80 ore samples

Sample ID	Ore Type	Filtration Rate	Wash Efficiency	Cake Moisture
		kg/m ² /hr	%	wt%
Mets033*	Lake Maitland Clay80	242	90	24.9
Mets062	Lake Maitland Clay80	119	98.5	24.8
Mets065	Lake Maitland Clay80	253	98.9	22.9
Mets088*	Lake Maitland Clay80	136	94.8	28.9

The ability to effectively remove chloride in the leach feed, by washing on a filter, allows for ion exchange to be incorporated into the process flowsheet. The use of an ion exchange circuit may ultimately remove the need for additional refining and reduce complexity and costs.

Toro has decided to continue and complete phase two of the Beneficiation and Process Design studies after the success of the studies to date and the positive interim results. The new processing plant design and process flowsheet have been a critical part of the Company's recent strategy to better position the Wiluna Uranium Project in a lower forecast uranium price environment.

Toro is also considering other avenues to extract value from the Wiluna Uranium Project during this subdued uranium price market, including an assessment of the prospectivity for other metals, the most obvious being Yandal style gold (Jundee, Darlot and Bronzewing) on the tenements related to the Lake Maitland deposit.

Cautionary Statement

The Studies are based on lower-level technical and economic assessments and are insufficient to provide certainty that the conclusions of the Studies will be realised. Further, the Company cautions that there is no certainty that the forecast financial information contained in the Studies will be realised. All material assumptions underpinning the forecast financial information are set out in this announcement. This forecasted financial information is deduced from an underlying mining production rate deemed possible due to the size of the Mineral Resources at Lake Maitland. Refer ASX announcement dated 1 February 2015 that shows Lake Maitland deposit has sufficient Mineral Resources to support a 2Mt/a mining operation.

ENDS

FURTHER INFORMATION:

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Toro Energy's vision is to be Australia's next uranium producer. Toro will maximise shareholder returns through responsible mine development and asset growth.

Toro's flagship asset is the 100% owned Wiluna Uranium Project, consisting of six calcrete hosted uranium deposits. The project is located 30 kilometres southwest of Wiluna in Central Western Australia. All deposits have received government approval for mining, providing the Wiluna Uranium Project with the opportunity to become Western Australia's first uranium mine.

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FORWARD LOOKING AND CAUTIONARY STATEMENTS

Forward Looking Statements

This announcement may contain certain “forward-looking statements” which may not have been based solely on historical facts, but rather may be based on the Company’s current expectations about future events and results. Where the Company expresses or implies an expectation of belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to Resource risk, metals price volatility, currency fluctuations, increased production costs and variances in ore grade or recovery rates from those assumed in mining plans, as well as political and operational risks in the Countries and States in which we operate or sell product to, and governmental regulation and judicial outcomes. For a more detailed discussion of such risks and other factors, see the Company’s Annual Reports, as well as the Company’s other filings. Readers should not place undue reliance on forward looking information. The Company does not undertake any obligation to release publically any revisions to any “forward looking statement” to reflect events or circumstances after the date of this announcement, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.

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