

**ASX RELEASE**

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## Test work confirms beneficiation upgrade at Wiluna Uranium Project

Toro Energy Limited (**ASX: TOE**) reports that the beneficiation studies on the proposed processing circuit for the Wiluna Uranium Project in Western Australia have successfully demonstrated that a simple screen and de-slime beneficiation circuit process could significantly upgrade the majority of the feed to the proposed mill.

The aim of the beneficiation test work was to identify methodologies to produce a high grade, low mass uranium concentrate as mill feed, thereby delivering greater overall operational efficiencies and reduced costs at Wiluna.

Significantly, the results show that:

- High grade mineralisation associated with fine grained sediments can be beneficiated up to 3.3 times the original grade, resulting in a reduction to 27% of its original mass, with a low 16% loss of the total uranium; and
- The beneficiation upgrades are not grade dependent; they are achieved across all grades from as low as 220 ppm  $U_3O_8$  to sample grades of more than 2000 ppm  $U_3O_8$ .

*"We are pleased to see that these results confirm our initial beneficiation test results announced in May 2016,"* Toro Managing Director, Dr Vanessa Guthrie, said. *"These results show that the beneficiation combination works best wherever clays and/or very fine grained sediments dominate the geology, which is a significant proportion of the Wiluna geology."*

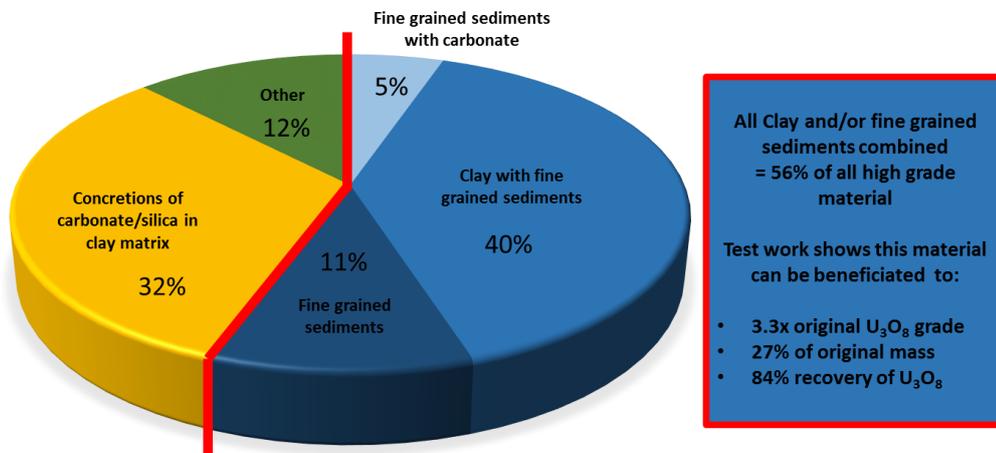
*"Even in samples where clay is not dominant, de-sliming still produces an improved result. Given the well understood flow-on benefits from de-sliming for process design, it is likely that desliming to remove the fine grained fraction will deliver processing efficiencies across all lithologies at Wiluna."*

The most recent test work was conducted on seven drill core samples from the Centipede-Millipede and Lake Maitland deposits, by the independent metallurgy group, Strategic Metallurgy. Each assay was carefully selected to best represent the geology hosting the 'economic' uranium mineralisation at Wiluna that is  $>500$  ppm  $U_3O_8$ , which is considered to be close to mill feed grades.

Table 1 shows the results from all seven samples, including those with high clay content and those where concretions are dominant. Figure 1 shows the proportion of high grade mineralisation at Wiluna that each result represents, according to the geology of the sample and the current geological models of the deposits.

Sample prior to beneficiation				Concentrate produced post-beneficiation		
Deposit	ID	Lithology	Head grade (ppm U <sub>3</sub> O <sub>8</sub> )	Weight compared to original (%original weight)	Beneficiated Grade (ppm U <sub>3</sub> O <sub>8</sub> )	Uranium Recovery (% original U <sub>3</sub> O <sub>8</sub> content)
Lake Maitland	Mets061	Clay with fine grained sediments	2,101	31.7%	6479	93%
Lake Maitland	Mets088	Clay with fine grained sediments	226	23.2%	823	73.2%
Lake Maitland	Mets079	Mixed sample	703	43.1%	1005	63.1%
Centipede	Mets033	Fine grained sediments	1593	28.3%	4821	89%
Centipede	Mets042	Concretions of carbonate/silica in clay matrix	1879	45.5%	3089	75%
Centipede	Mets032	Concretions of carbonate/silica in clay matrix	1319	65.5%	1513	76%
Millipede	Mets014	Fine grained sediments with carbonate	422	21.4%	1567	77%

**Table 1 – Beneficiated concentrates**



Main lithologies of the Wiluna Project as proportion of high grade ore (>500 ppm U<sub>3</sub>O<sub>8</sub>)

**Figure 1<sup>1</sup>**

<sup>1</sup> Data relates to the block models developed from the most recent resource estimations (refer to ASX releases of 1 February 2016 for the Lake Maitland deposit, 14 October 2015 for the Centipede-Millipede deposit and 9 and 10 October 2013 for the Lake Way deposit). Combined test results in the pie chart data have been calculated by weighting the results of the test work outlined in the table by their relative proportions in the pie chart.

The successful beneficiation method is simple, taking advantage of the observation that in most cases the uranium mineralisation (carnotite) at Wiluna is associated with a particle size range of between a fine fraction (less than 5.5 micron) and a coarse fraction (greater than 75 micron). This means that a simple combination of a screen to separate the coarser fraction and the use of cyclones to separate out the finest fraction will concentrate the majority of the uranium without significant loss.

Importantly, screening and cycloning are conventional techniques that are successfully used in operations elsewhere in mineral processing in Australia. Following this latest test work Toro is increasingly confident that the proposed beneficiation method can be replicated at plant scale in due course.

*“Based on these results, Toro will now proceed to the next phase of optimisation studies which includes leach testing on the beneficiated concentrates of each of the seven samples. “ Dr Guthrie said. “Given that the potential economic benefits from the beneficiation extend beyond the obvious direct improvements to include flow-on benefits in the processing circuit, we are confident that a re-design of the process flow sheet will yield significant improvement to the overall project economics.” ENDS*

#### **FURTHER INFORMATION:**

Vanessa Guthrie	Toro Energy	08 9214 2100
John Gardner	Citadel-MAGNUS	08 6160 4900

*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. The Centipede and Lake Way deposits have received government approval for mining, providing the Wiluna Project with the opportunity to become Western Australia's first uranium mine.*

*Toro also owns a highly prospective suite of exploration properties through Toro's own discovery at the Theseus Project on the Western Australian/Northern Territory border. The company is also pursuing growth opportunities through accretive uranium project acquisitions.*

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