ORE SORTING TESTWORK EXCEEDS EXPECTATIONS AT KAYELEKERA URANIUM PROJECT

Lotus Resources Limited (**ASX: LOT, OTCQB: LTSRF**) (**Lotus** or the **Company**) is pleased to announce excellent results have been achieved in the initial phase of ore sorting testwork, with the grade of the ore sorting product increased by up to 100%, compared to the original feed sample for the Kayelekera Project (**Kayelekera** or the **Project**).

HIGHLIGHTS

- **Initial ore sorting testwork results on ~500kg of ore from the Project have exceeded expectations, with the uranium grades of the ore increasing by up to 100% when compared to the feed sample**

- **This work validates the Company's view that ore sorting has the potential to both increase the feed grade (annual production) and extend the life-of-mine through utilisation of low-grade ores) as plant feed**

- **Testwork will continue during 3Q 21 to further refine the results with this work focused on:**

    - Testing a combination of sensors on the ore sorter to further optimise results

    - Testing additional material types, including lower grade stockpiles

- **Current indications are that a single ore sorter for the Project would cost between US$2M – US$3M**

- **The results of further ore sorting testwork and associated engineering studies will be incorporated into the Feasibility Study which is expected to commence in 3Q 21**

Figure 1: Ore Sorting testwork video

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Keith Bowes, Managing Director of Lotus, commented:

"As previously stated, ore sorting is not essential for the Kayelekera mine to recommence production, but this technology has the potential to improve the economic returns of the Project, by reducing operating costs, increasing annual production and extending the mine life.

These initial results have exceeded our initial expectations, as the ore has been upgraded by as much as 100%, compared to the feed grade. This means for example that a 400ppm U_3O_8 marginal ore could be upgraded to around 800 ppm U_3O_8 in feed for the main plant.

Importantly, this initial phase of testwork tested each sensor individually. Our next phase of testwork will look at combining the sensors (i.e., testing the colour and density sensors in the same run) to determine if it is possible to improve on these results further.

We encourage investors to watch the short video of the ore sorting process by clicking on the link below. We will continue to provide additional information on this trial work over the coming months."

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Ore sorting testwork results

The Company tested two samples of run of mine ore (~500kg) at the STEINERT testing facility in Perth. The two samples were tested in a commercial scale ore sorting unit, with one sample using only the colour sensor and the other sample, using only the density sensor.

Figure 2: Facility used during the testwork is the same size that would be used at the Project

The sample as received was initially crushed to 100% passing 60mm and then screened at 20mm. The +20 mm -60mm material was delivered to STEINERT for testing.

A total of three products were produced from each test – a concentrate sample that represented a high-grade product, a middlings sample that represented a high recovery option and a tailings sample. Each of these samples were collected, weighed and prepared at the laboratory, then submitted for chemical assay. The mass splits, upgrade ratios (defined as product assay/head assay) and the distributions in each stream are shown below in Tables 1 and 2 for the colour sensor sorting and density sensor sorting respectively.

Table 1: Colour Ore Sorting Results

Sample	Mass Split	Upgrade Ratio	Distribution
Fines (-20mm)	**16.1**	**1.0**	**16.2**
Ore sorter (+20mm)	**83.9**	**1.0**	**83.8**
Concentrate	31.5	2.0	61.8
Middlings	5.0	1.6	8.0
Tails	47.4	0.3	14.1
Products			
Conc + Fines	47.6	1.6	77.9
Conc + Midds + Fines	52.6	1.6	85.9
Head Sample	**100**	**1.0**	**100**

Table 2: Density Ore Sorting Results

Sample	Mass Split	Upgrade Ratio	Distribution
Fines (-20mm)	**16.8**	**1.0**	**16.3**
Ore sorter (+20mm)	**83.2**	**1.0**	**83.7**
Concentrate	8.9	2.1	18.8
Middlings	22.0	1.6	36.3
Tails	52.3	0.5	28.7
Products			
Conc + Fines	25.7	1.4	35.0
Conc + Midds + Fines	47.7	1.5	71.3
Head Sample	**100**	**1.0**	**100**

The initial results indicate that colour sorting may be more effective on these specific ore types (86% recovery with an upgrade ratio of 1.6 versus recoveries of 71% at upgrade ratios of 1.5 using density) but there are indications that the density separation may produce a higher grade product.

In the data shown above, it is assumed that the fines material is added directly back into a final product stream, with no upgrading on that fraction. Lotus is currently undertaking some testing on these fines to see if this material can be upgraded with more traditional techniques e.g., flotation, gravity and size separation (desliming etc).
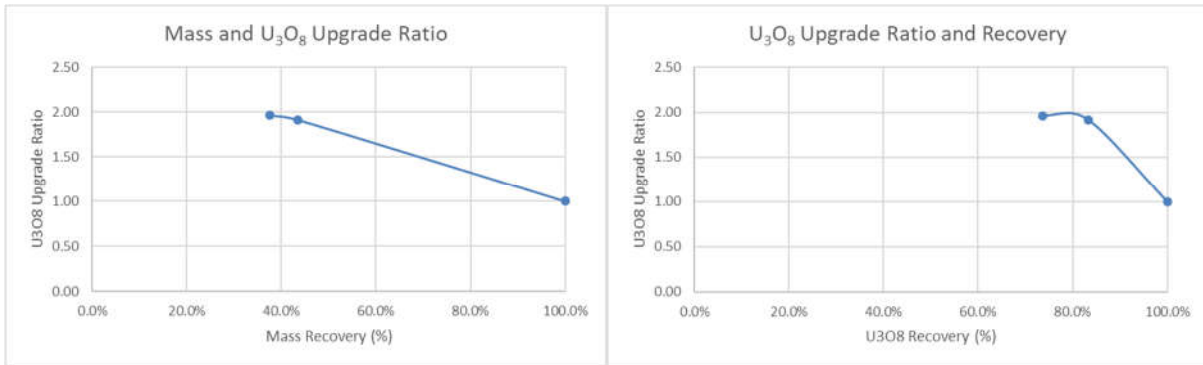
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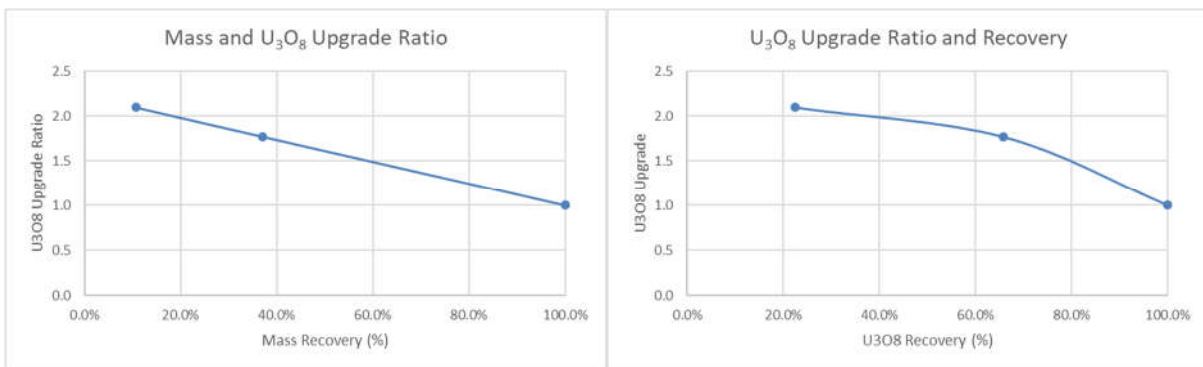
Figure 2: Colour Sorting

Figure 3: Density Sorting

Figures 2 and 3 show the results of ore sorting tests without incorporating the fines into the results. The data is presented as upgrade – recovery curve similar to what would be shown for flotation results. The results represent what could be achieved with the Kayelekera ore if the fines upgrading testwork produced similar results to the ore sorting, specifically, an upgrading factor of 2 with an 80% recovery.

Leaching testwork results

In order to provide a final check on the potential product generated from this modified process, the concentrate + middlings + fines from each test were leached under standard Kayelekera conditions to ensure no issues with uranium extractions. The results are shown below in Table 3, along with a comparative leach on the original head sample.

Results indicate leach recoveries for the concentrate product are at least as good as the original sample recoveries and may be higher. Acid recoveries on a per tonne basis were higher for the concentrate, but when calculated on a specific basis (kg acid / kg uranium leached) they were equivalent or lower. This means that for an equivalent uranium production, the acid consumed will be similar.

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Table 3: Leaching Results

Sample	Uranium Extraction	Acid Consumption (kg acid/t ore)	Acid Consumption (kg acid/kg U3O8)
Head sample (Colour)	**94%**	**46**	**70**
Colour Ore Sorter			
Conc + Midds + Fines	98%	73	64
Head Sample (Density)	**95%**	**59**	**69**
Density Ore Sorter			
Conc + Midds + Fines	97%	90	66

Next steps

The upgrading of the fines portion of the feed material is ongoing, with results expected to be received in the coming months.

A second phase of ore sorting testwork, whereby the various sensors are used together is being prepared with testwork planned to take place later in July. While this work is being undertaken, new samples from site will be delivered for further testing. These will include samples of the lower grade material, along with the other rock types treated at Kayelekera. The Company expects these results to be available during 3Q 2021.

This announcement has been authorised for release by the Company's board of directors.

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ABOUT LOTUS

On completion of the acquisition of Kayelekera Resources Pty Ltd's interest in Lily Resources Pty Ltd (subject to shareholder approval – see ASX announcement dated 25 March 2021), Lotus will own an 85% interest in the Kayelekera Uranium Project in Malawi. The Project hosts a current resource of 37.5M lbs U_3O_8 (see table below), and historically produced ~11Mlb of uranium between 2009 and 2014. The Company completed a positive Restart Study[1] which demonstrated that Kayelekera can support a viable long-term operation and has the potential to be one of the first uranium projects to recommence production in the future.

Kayelekera Mineral Resource Estimate – March 2020[2]

Category	Mt	Grade (U_3O_8 ppm)	U_3O_8 (M kg)	U_3O_8 (M lbs)
Measured	0.7	1,010	0.7	1.5
Measured – RoM Stockpile[3]	1.6	760	1.2	2.6
Indicated	18.7	660	12.3	27.1
Inferred	3.7	590	2.2	4.8
Total	**24.6**	**660**	**16.3**	**36.0**
Inferred – LG Stockpiles[4]	2.4	290	0.7	1.5
Total All Materials	**27.1**	**630**	**17.0**	**37.5**

For more information, visit www.lotusresources.com.au

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[1] See ASX announcement 20 October 2020. Lotus confirms that all material assumptions underpinning the production target and forecast financial information included in that announcement continue to apply and have not materially changed.

[2] See ASX announcement dated 26 March 2020. Lotus confirms that it is not aware of any new information or data that materially affects the information included in the announcement of 26 March 2020 and that all material assumptions and technical parameters underpinning the Mineral Resource estimate in that announcement continue to apply and have not materially changed.

[3] RoM stockpile has been mined and are located near mill facility.

[4] Medium-grade stockpiles have been mined and placed on the medium-grade stockpile and are considered potentially feasible for blending or beneficiation, with studies planned to further assess this optionality.

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