



15 May 2020

### **Astron completes significant Wet Concentrator piloting works for its Donald Project**

**Astron Corporation Limited (ASX:ATR)** (“Astron” or “Company”) is pleased to advise that it has successfully completed a pilot of the Donald Mineral Sands Project ore material.

Astron engaged Mineral Technologies to undertake the pilot test works. Mineral Technologies has now delivered to Astron its final report of the pilot trial outcomes from the wet concentrator Plant (**WCP**). 1,000t of run of mine (**ROM**) ore material from the Donald Project was treated in a purpose built 4 stage pilot gravity separation plant in Southern Queensland.

The test plant was a 1:121 scale plant constructed in accordance with designs of the WCP from Astron’s previous feasibility studies. Astron is pleased with the overall performance of the pilot process.

The feed preparation process liberated the Heavy Minerals contained in the ROM material with minimal loss of mineral to waste streams. The feed preparation was selective and aided the removal of oversize +3mm and slimes at -20 $\mu$  sizes. This was a noticeable improvement compared with previous bench scale programs.

The gravity separation works confirmed optimal equipment selection. Monitoring of recoveries at all stages of the operation of the separation process was conducted as metallurgical surveys and operational shift samples.

There were significant findings from the piloting works, including the recoverability of the finer WIM style minerals. The recoverability of the finer materials compares favourably against historical challenges with the finer grained resources. The VHM (Very / Valuable Heavy Mineral) recovery was tested at various heavy mineral concentrate (**HMC**) grades. Acceptable recoveries were maintained at both 85% and 95% HMC grade, respectively.

Another finding was that lowering the HMC grade target had limited impact on increasing ZrO<sub>2</sub> and CeO<sub>2</sub> recoveries. Similarly, raising the HMC grade to 95% had limited impact on decreasing ZrO<sub>2</sub> and CeO<sub>2</sub> recoveries (although a marked decrease in low SG TiO<sub>2</sub> is anticipated).

These favourable test results allow for future optimisation of the beneficiation processes and potential improvements for operating costs, given the selective rejection of low value lighter heavy minerals with limited VHM loss.

Some of the significant recovery data from the Mineral Technologies Report<sup>1</sup> includes:

- Recovery of *in-size and in-SG* TiO<sub>2</sub>, ZrO<sub>2</sub> and CeO<sub>2</sub> (i.e -250+20 $\mu$  +4.05SG fraction) was calculated to be 96.9%, 97.9% and 98.1%.
- Recovery of *total* TiO<sub>2</sub>, ZrO<sub>2</sub> and CeO<sub>2</sub> to sand fraction was calculated to be 85.2%, 94.6% and 95.9% relative to ROM ore.

The pilot process produced approximately 24 tonnes of HMC for additional future piloting processes.

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<sup>1</sup> Mineral Technologies Report *MS20/2054526/1*

Additional piloting undertaken by Astron includes Mineral Separation Plant concepts using conventional gravity, magnetic and electrostatic separation techniques. Astron will report on these results separately.



Fig 1. Pilot operations



Fig 2. Sand fraction oversize +3mm

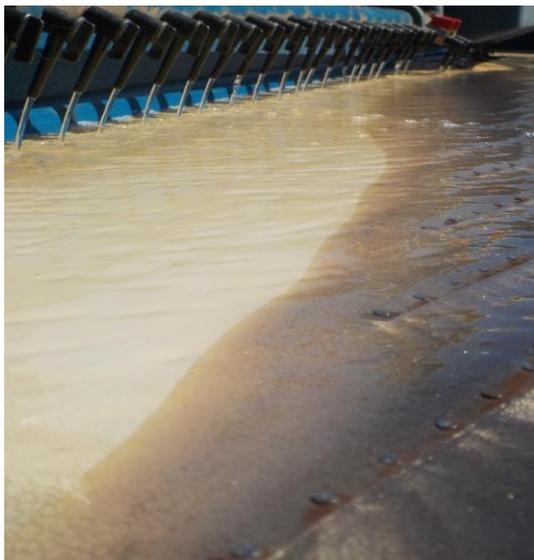


Fig3. Table – Re-Cleaner feed test

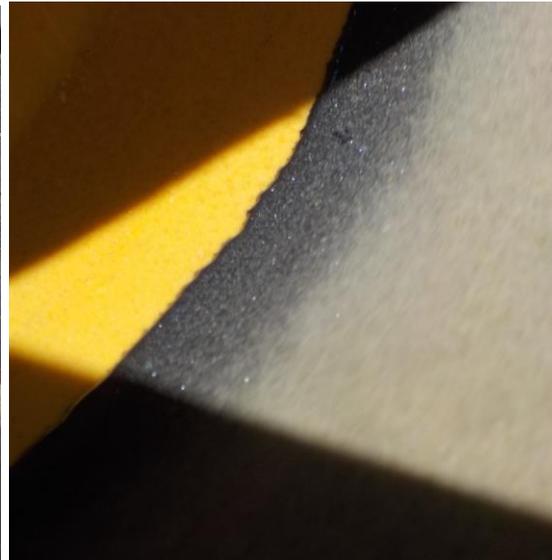


Fig 4. Spiral loading – Commissioning phase

**Astron Corporation Limited**

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This announcement is authorised for release to ASX by the Board of Directors of Astron

## **About Astron**

Astron's main focus is developing its two wholly owned mineral sands projects, the Donald Project in Australia and the Niafarang project in Senegal.

The Donald project is one of the largest known zircon and titanium resources in the world. The project has significant potential for long term supply into global markets with its final products while creating sustainable growth and regional development in Victoria Australia.

The Niafarang project in Senegal, West Africa, is a high-grade coastal mineral sands deposit, to be exploited using simple dredge mining and processing methodology.

Astron continues to build on its unique 25 year track record in China as a Chinese-Australian company in developing, selling and marketing zirconium and titanium products.

## **CAUTIONARY STATEMENT**

Certain sections of this document contain forward looking statements that are subject to risk factors associated with, among others, the economic and business circumstances occurring from time to time in the countries and sectors in which the Astron group operates. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a wide range of variables which could cause results to differ materially from those currently projected.