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## PILOT PLANT TESTWORK CONFIRMS HIGH GRADE PRODUCT FOR JAMBREIRO IRON ORE PROJECT

*66.0% Fe PRODUCT TO BE DELIVERED TO POTENTIAL CUSTOMERS FOR TESTING IN THEIR STEEL FACILITIES*

### Key Points

- **Key pilot plant testwork program on Jambreiro friable ore complete**
- **High-grade product (66.0% Fe) with low impurity levels produced**
- **New process flow sheet delivers product with enhanced physical properties**
- **Potential to reduce capital and operating costs**
- **Product being prepared for delivery to potential customers**

International iron ore company Centaurus Metals Limited (ASX Code: **CTM**) is pleased to announce that it has taken a further important step towards development of its flagship **Jambreiro Iron Ore Project** in south-east Brazil after receiving positive results from a key program of pilot plant beneficiation testwork, confirming the ability to produce a **premium grade (66.0% Fe) product** from the Project.

The extensive testwork program, which has been conducted on the friable itabirite iron ore which underpins the Project, demonstrated the ability to deliver a high-grade **sinter feed-blend product with low impurities (4.1% silica, 0.8% Al<sub>2</sub>O<sub>3</sub>, 0.01% phosphorus) at an improved mass recovery of 39.4%**.

The key batches of the testwork program generated approximately 9 dry tonnes of finished product which will now be prepared for distribution to domestic steel producers in Brazil ahead of discussions around potential off-take arrangements. Some of the product will also be used to undertake independent sinter testwork.

Importantly, the testwork has also revealed opportunities to reduce both capital and operating costs for the Jambreiro Project by introducing slight changes to the design of the flowsheet in response to the testwork results. These will be incorporated in the Bankable Feasibility Study due for completion next month.

This pilot plant test run successfully introduced a jig beneficiation step, for the +1.00 mm feed component, into the front end of the previously reported magnetic separator-only beneficiation circuit. This has achieved concentrate grade, direct to final product, without the need for grinding of this component of the run-of-mine ore (*Figure 1*).

The benefits to be received from the introduction of this jig step will be enhanced physical properties in the overall sinter feed-blend product and also a reduction in the percentage of ore requiring grinding.

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The introduction of the jig and the enhancements made in the magnetic separation cleaner stage of the processing facility has had a positive impact on the mass recovery of the Jambreiro ore in the circuit while maintaining the high grade, low impurity product for sale into the domestic market. As can be seen in Figures 1 and 2 below, a premium grade jig and cleaner concentrate was achieved out of the pilot plant with very low levels of other impurities. The tail from the cleaner concentrate was nearly all silica and the white colour of the material, as shown in Figure 3, is evidence that virtually no iron units were lost to tailings in this process.

The final process flowsheet to be costed as part of the Bankable Feasibility Study (“BFS”) on the Jambreiro Project is presented in Figure 4 below.

The specific enhancement of physical properties of the sinter feed-blend concentrate will be the significant increase the -5mm +1 mm coarse particle component, without increasing the already attractive low percentage of undesirable ultra-fine component. The low ultra-fine component in the final product, combined with high iron content, offers customers the opportunity to significantly upgrade the overall sinter quality, productivity and to lower their cost per Fe unit into their blast furnaces by using Jambreiro concentrates in combination with other less expensive ores in their blend.

The reduced grinding requirement is likely to lead to a reduced mill size and power draw for the operation by reducing the power consumption in the more expensive flow sheet step of grinding. These operational benefits should flow into lower capital and operating costs for processing the ore.

A summary of the testwork results is provided below:

	<b>Metal Recovery %</b>	<b>Mass Recovery %</b>	<b>Fe %</b>	<b>SiO<sub>2</sub>%</b>	<b>Al<sub>2</sub>O<sub>3</sub>%</b>	<b>P %</b>
<b>ORE FEED</b>			30.4	52.3	2.7	0.02
<b>PILOT PLANT CONCENTRATE</b>	85.4	39.4	66.0	4.1	0.8	0.01

The pilot plant testwork program was assembled and operated at Fundação Gorceix, the premier mineral processing plant facility in Brazil which operates at the prestigious Ouro Preto Mining School, located in the state of Minas Gerais.

The testwork results will be used to lock down the final process flowsheet for the Bankable Feasibility Study (‘BFS’) and allow the BFS team to complete the basic engineering work and facilitate the completion of the capital and operating cost estimates.

Centaurus’ Managing Director, Mr Darren Gordon, said the Company was very pleased with the outcome of the pilot plant testwork, which represented an excellent outcome for project economics while at the same time confirming that the proposed processing route is a robust and reliable option for delivery of a high-grade, low-impurity product.

Mr Gordon said: *“At the end of the day, our ability to upgrade the Jambreiro friable ore to produce a high-quality product that can be sold to the domestic steel industry in Brazil will underpin the success of this Project.*

*“The introduction of the jig into the circuit will have a positive impact on the overall costs of the Project and saleability of the product in the Brazilian domestic market by increasing the top size of the material and enhancing its blending characteristics with the other ore sources supplying the Brazilian steel mills.”*



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**Figure 1 – Jig Concentrate**





Figure 2 – WHIMS Cleaner Concentrate



Figure 3 – Tails from the WHIMS Cleaner Process

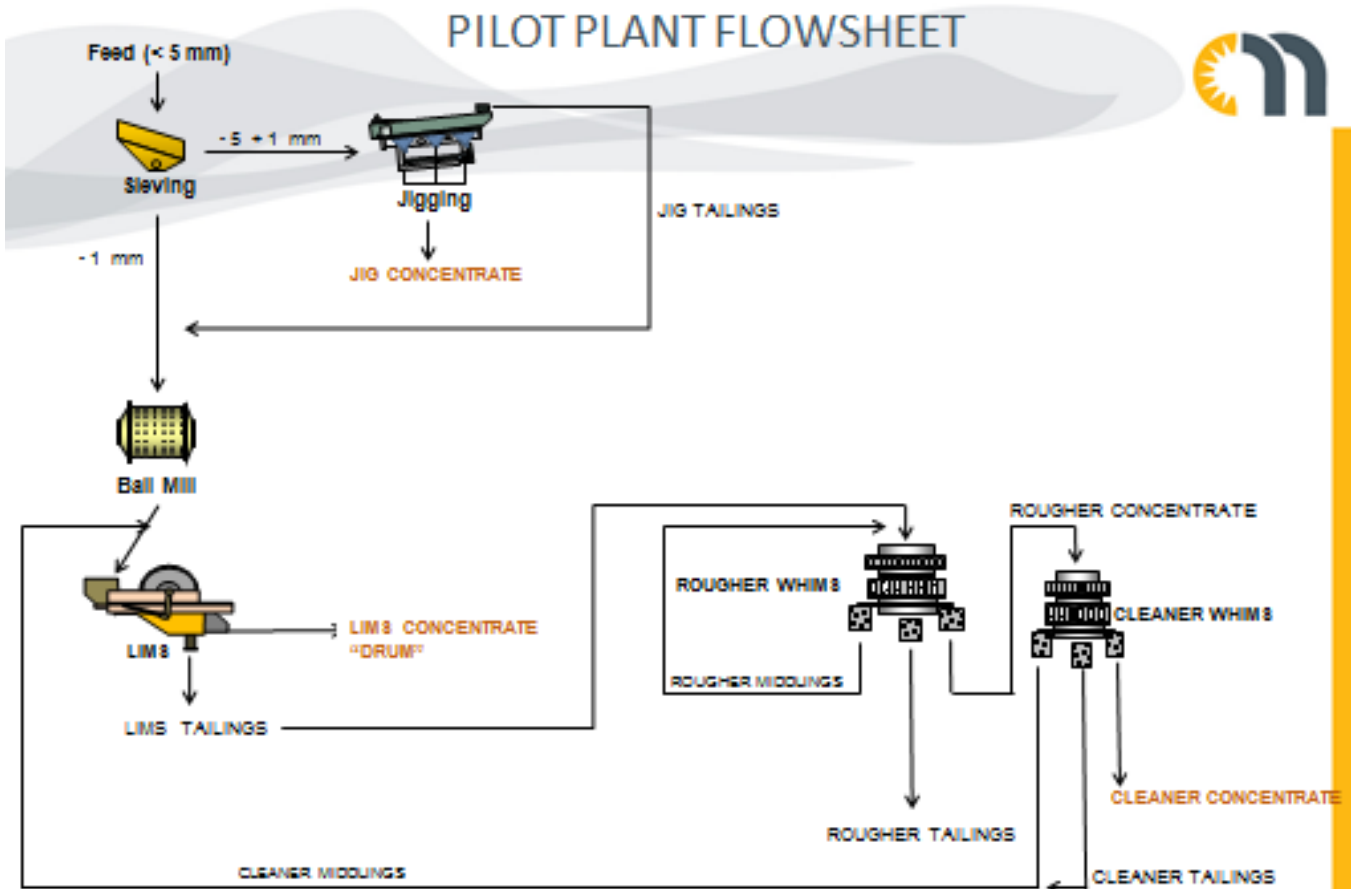


Figure 4 – New Process Flow Sheet for Costing in the BFS