

Projects

SPAIN

- **Santa Comba**
W-Sn development
- **San Finx**
W-Sn development

PORTUGAL¹

- **Borralha**
W development
- **Vila Verde**
W exploration

CANADA

- **Midrim/Laforce**
Ni-Cu-PGM exploration
- **McCleery**
Au-Co-Cu-Ag exploration

¹ Pending Completion

ASX ANNOUNCEMENT

25 January 2022

SANTA COMBA TUNGSTEN PROJECT DELIVERS IMPROVED RECOVERIES AHEAD OF DFS RELEASE

Rafaella Resources Limited (ASX:RFR) ('Rafaella' or the 'Company') is pleased to announce the results of its phase 3 and Phase 4 metallurgical test work on the Santa Comba open pit ore being conducted as part of a Definitive Feasibility Study.

Investment Highlights

- Overall recoveries from run of mine (ROM) to concentrate have **increased 5.6%** to 71.6% versus 66% in the pre-feasibility study. (PFS)¹
- Detailed metallurgical test-work conducted has demonstrated **6.2%** improved metallurgical recoveries from upgraded ore from those used in the PFS (76.2% versus 70%) due largely to the Santa Comba ore being amendable to wet high intensity magnetic separation (WHIMS).
- Santa Comba will produce calcium tungstate that commands a premium to tungsten concentrate.
- Offtakers have expressed interest in securing supply of this highly marketable product with sales discussions underway.
- With the process flow sheet completed, capital cost estimates are expected to be finalised shortly. This study work was the critical item for the completion of the definitive feasibility study which is now rapidly being closed out.

Managing Director Steven Turner said: "The Santa Comba tungsten and tin project has undergone extensive metallurgical test-work over the last 12 months. As announced previously², the Definitive Feasibility Study has been delayed as the Company has been committed to ensuring that the process is thoroughly tested and optimised, given issues experienced at other tungsten projects in the region. Rafaella is now pleased to confirm that the work to under-pin a DFS has been completed showing significantly improved metallurgical recoveries. Moreover, the Company has finalised the selection of the final product, calcium tungstate, a premium tungsten product. Discussions with potential off-takers have confirmed the desirability of calcium tungstate, also known as synthetic scheelite, and Rafaella is comfortable that it will shortly secure attractive off-take terms."

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¹ See ASX announcement dated 2 December 2020 "Santa Comba PFS demonstrates Exceptional Economics with Assignment of Ore Reserves"

² See ASX announcement dated 29 October 2021 "Santa Comba Tungsten Project - Feasibility Study Update"

Metallurgical Test Results and Sales Product

Metallurgical test work conducted by Grinding Solutions Limited in the UK has allowed a flowsheet to be developed for treating the disseminated wolframite ore from the Santa Comba open pit project.

Extensive test work using industrial scale sorting machines have been carried out by TOMRA Sorting GmbH in Germany and remain consistent with those used in the Pre-feasibility Study (PFS), showing a 90% recovery with a 50% rejection of waste material from the +8 mm size fraction.

The key change from the PFS is an improvement in metallurgical recovery to a 15% concentrate (post ore sorting) from 70% to 76.2%. This has led to an overall increase in recoveries from the run of mine (ROM) to concentrate from 66% to 71.6% (an overall increase of 5.6%). This is a significant improvement and opportunities remain to further optimise recoveries and drive down both capital and operating costs. Sufficient study work has now been completed to finalise the process flow sheet (shown as an attachment to this announcement) and to complete the capital and operating cost estimates required for the DFS. This work is now well advanced.

An important result of the metallurgical test work has been the final determination of the sales product. Santa Comba will produce calcium tungstate (CaWO_4), or synthetic scheelite, a premium product that typically achieves a payability of 2% higher than the equivalent tungsten concentrate. Discussions with potential offtakers have confirmed the marketability of calcium tungstate and the Company is confident that offtake terms will soon be agreed.

Process Flow Sheet

Sorting using X-ray transmission sorters allows waste to be rejected with only a small loss of tungsten (6.6%) and an increase in grade of 45%. The upgraded ore will be milled using a rod mill with stacked sizers to close the circuit, and primary concentration will be achieved using a combination of continuous centrifugal concentrators and high intensity magnetic separation. The concentrate produced will be further upgraded using shaking tables followed by sulphide removal by froth flotation. The recovery of tungsten from sorter concentrate to a 15% WO_3 concentrate is good at 76.2% with an overall recovery from ROM ore of 71.6%.

Initial test work has shown the tungsten can be leached using sodium hydroxide at atmospheric pressure and work carried out on similar ore achieved a 98% recovery of tungsten to high grade synthetic scheelite. Confirmatory leach / precipitation tests are currently being carried out.

Flowsheets have been developed for all but the final leach / precipitation stage. Equipment quotes have now been obtained and the development of a plant layout is almost complete.

This announcement has been authorised by the Board of Directors of the Company.

Ends

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About Rafaella Resources

Rafaella Resources Limited (ASX:RFR) is an explorer and developer of world-class mineral deposits. Rafaella owns the Santa Comba and San Finx tungsten and tin development projects in Spain, as well as having agreed the acquisition of the Borralha and Vila Verde tungsten projects in northern Portugal. The recently acquired San Finx project lies 50km south from the Company's flagship Santa Comba tungsten and tin mine in Galicia, NW Spain. The Portuguese projects to the south are highly complementary to the Spanish projects, all within the same geological belt, strengthening the Company's strategic position in the Iberian Peninsula and its long-term goal of being a significant supplier of the critically listed metals of tungsten and tin.

Rafaella also holds an exploration portfolio in Canada, comprising the Midrim and Laforce high-grade nickel-copper-PGE sulphide projects in Quebec and the McCleery cobalt-copper project in the Yukon. The McCleery project was previously under-explored and holds significant potential. The Midrim and Laforce projects have had extensive drilling with some exciting intersections and offer significant upside for the Company.

To learn more please visit: www.rafaellaresources.com.au

Competent Person Statement

The information in this announcement that relates to the metallurgical study work is based on, and fairly represents, information and supporting documentation compiled under the supervision of John Thomas, a consultant to the Company. John Thomas has a Phd in Chemical Engineering (Manchester) and is a professional engineer registered in the province of British Columbia, Canada and a member of the Association of Professional Engineers and Geoscientists of British Columbia, a Recognised Professional Organisation for the purpose of reporting in accordance with Appendix 5a of the Australian Securities Exchange listing rules (the JORC code). John Thomas consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Forward Looking Statements Disclaimer

This announcement contains forward-looking statements that involve a number of risks and uncertainties. These forward-looking statements are expressed in good faith and believed to have a reasonable basis. These statements reflect current expectations, intentions or strategies regarding the future and assumptions based on currently available information. Should one or more of the risks or uncertainties materialise, or should underlying assumptions prove incorrect, actual results may vary from the expectations, intentions and strategies described in this announcement. No obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.