



21 February 2022

Savannah Resources Plc
(AIM: SAV, FWB: SAV and SWB: SAV) ('Savannah' or the 'Company')

Finalisation of Environmentally Enhanced Process Flowsheet to Produce High Quality Spodumene Concentrate

Savannah Resources plc, the European lithium development company, is pleased to announce that it has successfully achieved a major project milestone with the finalisation of the process flowsheet ('flowsheet') to produce spodumene concentrate at the company's 100% owned Barroso Lithium Project ('the Barroso Project' or 'the project'). Minsol Engineering ('MinSol'), a leading metallurgical consultant, is satisfied that the flowsheet, which has been tested and refined over the past eight months, is now finalised and ready to be adopted for detailed engineering studies as part of the Project's Definitive Feasibility Study ('DFS') and implementation.

Highlights:

- The process flowsheet is a critical component to the operation and the finalisation of a robust, environmentally enhanced and efficient process flowsheet will support the production of a high quality, spodumene concentrate grading $\geq 5.5\%$ Li_2O , in line with current industry product specifications
- The flowsheet will utilise industry standard equipment and processes including Dense Media Separation, pre-concentration, followed by magnetic separation and flotation
- The environmentally friendly reagent regime, which complies with all known European and Portuguese requirements, allows both mica and spodumene flotation to operate at near neutral pH.
- The ore variability programme across all deposits is nearing completion. Results from the samples tested to date have achieved Li_2O recoveries in the range of 70-79.5% at laboratory scale with low levels of impurities. Average recovery achieved for all composites is 75.3%
- Up to 30kg of concentrate sample will be produced for downstream testing by Savannah's potential offtake customers
- Process performance has been optimised at a 42% coarser grind size (150 micron (μm)) than previously tested which should result in significant capital and operating cost savings
- An opportunity exists to double the grind size (212 micron) versus the previously reported level (106 micron) for approximately 40% of the tested resource with the potential for average recoveries of c.80%
- Co-product testing has confirmed the potential to generate saleable ceramic products from the processes waste streams
- Based on the positive results achieved to date, locked cycle test work and planning for the pilot plant test work programme are underway

David Archer, Savannah's Chief Executive Officer said: *"We have successfully developed a robust and environmentally enhanced flowsheet that has benefited from the deep body of knowledge developed over the last few years around the conventional processing of spodumene ores. We are particularly proud to have developed a new reagent regime that eliminates the acids that are typically used to control the pH in the flotation circuit.*

"While our process flowsheet for the Barroso Project already complies with all relevant Portuguese and European regulations, the additional effort and innovation we have shown further reflects Savannah's highly responsible approach to the natural environment and the Project's stakeholders.

"The metallurgical work which has now been successfully completed puts the Barroso Project on a sound footing to rapidly progress the Definitive Feasibility Study once the principal development parameters are received from any approval of the Project's Environmental Impact Assessment by the regulator. We look forward to bringing further news on the locked cycle and pilot plant test work programmes during 2022."

FURTHER INFORMATION

Background

Savannah and MinSol have been working collaboratively since December 2020 to finalise an efficient process flowsheet which produces a high quality spodumene concentrate grading $\geq 5.5\%$ Li_2O , and meets the following environmental and social criteria:

- Use of REACH (European Chemical Regulation) registered chemicals
- Use of chemicals classified with low environmental toxicity
- No use of strong acids or bases and operating at near neutral pH
- Dry stacked tails to minimise potential environmental impacts

As of February 2022, MinSol is satisfied that the current process flowsheet is finalised and ready to be adopted for detailed engineering studies and implementation.

Development of the flowsheet has considered all historical test programmes undertaken, as well as recent sighter, optimisation, and variability test programmes overseen by Minsol. The resulting flowsheet meets all known relevant environmental, licensing and social requirements, whilst supporting the Project's economics by providing a robust method for producing high quality and consistent concentrate for downstream processing into battery grade lithium chemicals.

All deposits have provided a consistent performance to date, and it is expected that remaining work should have no material impact to the overall flowsheet now selected.

Despite being capable of producing concentrates grading $>6.0\%$ Li_2O , Savannah has selected 5.5% as the minimum target product grade, due to the significant increase in overall Li_2O recovery, production and project revenue at this grade. The quality of the 5.5% concentrate is excellent, with key impurities such as Fe_2O_3 remaining below 0.6% (industry specification for Fe_2O_3 is typical less than 1.0 – 1.2%).

1.0 SUMMARY OF KEY RESULTS

The following section provides a high-level summary of the 2021/22 test programmes, being:

- T2922 – Flowsheet Development Test Programme
- T3032 – Ore Variability Test Programme

1.1 T2922 – Flowsheet Development Test Programme

The flowsheet development test programme (T2922) was completed at Nagrom Laboratories ('Nagrom') in Perth in Q4 2021, utilising a representative sample of Grandao fresh ore with a head grade of 1.31% Li_2O .

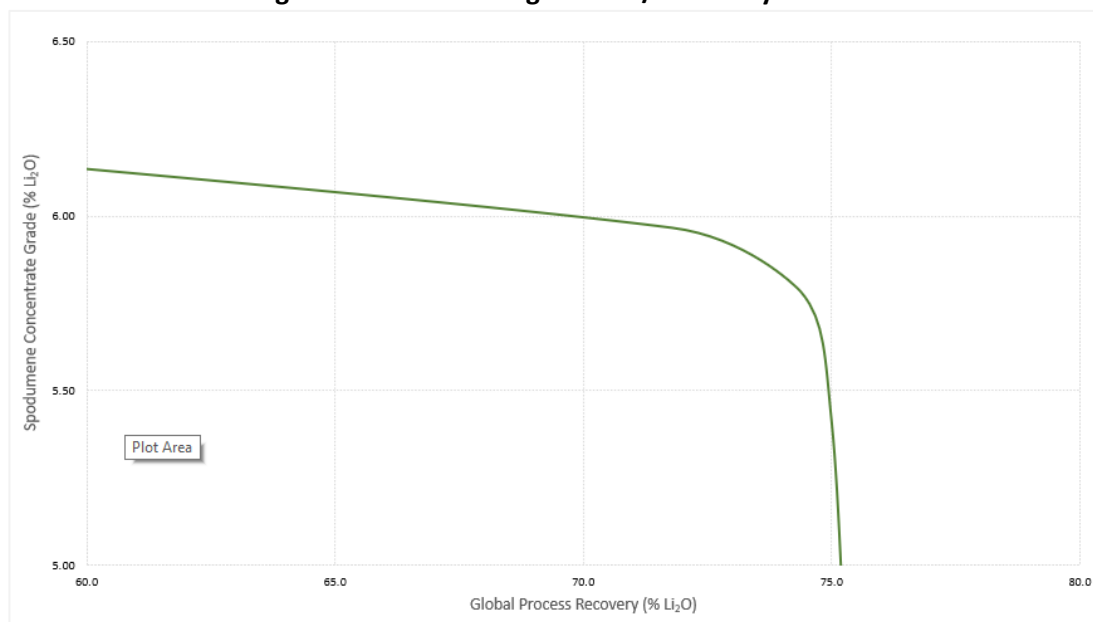
The programme trialled a range of operating conditions which differed to those previously tested, including:

- Density Media Separation pre-concentration
- Mica flotation utilising REACH registered chemicals
- Mica and spodumene flotation at a common, near neutral pH

The work completed to optimise the flowsheet and overhaul the reagent regime has been highly successful in creating a process which delivers concentrate grades and recovery rates which are consistent within the global spodumene industry while also meeting the social, environmental, and economic project drivers. The Flowsheet development test work was completed at 106 micron and returned Li_2O recoveries in the range of 72-75% for all deposits with low levels of impurities which are consistent with operating projects in the industry. Further refinement of the flowsheet with a focus on flotation grainsize was completed and is detailed section 1.2 T3032 – Ore Variability Test Programme below.

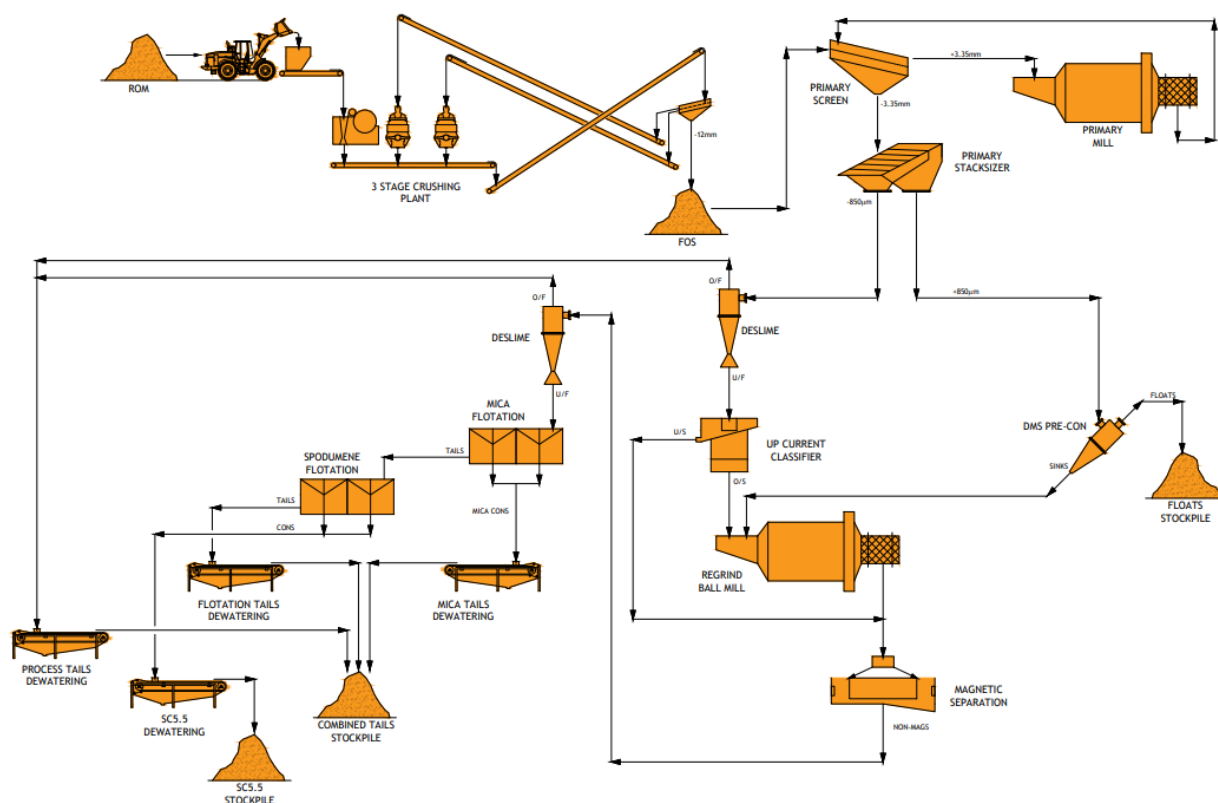
A summary of the flotation performance from this programme is detailed in Figure 1 below, which provides the typical relationship between concentrate grade and recovery from the selected process flowsheet and reagent regime.

Figure 1 - T2922 Average Grade / Recovery Curve.



The process flowsheet developed for the Barroso Lithium Project is conventional and will employ industry standard technologies and is therefore considered low risk. It is noted however that the reagent regime and operating pH for the mica flotation is unique to the Project. This was identified as a possible technical risk, but the extensive testing undertaken has shown that the mica float performance is similar to the “optimal” pH 2.5 float conditions, and only has a minor impact on Li₂O recovery.

Figure 2 - Simplified Process Flowsheet Block Flow Diagram



Further opportunities remain to improve the average global recovery for the process including:

- Investigating the opportunity to concentrate and agglomerate Li_2O from the slimes to produce a saleable product, with the slimes fraction totalling around 7.0% of the lithium losses for the proposed process. If feasible, this would be an “add on” to the Project and has no impact to the main process flowsheet

The ore variability test programme (T3032) utilised 10 composites, representing each major resource zone and lithology to be processed in the first 10 years of project operation. These samples ranged in grade from 0.76% Li₂O to 1.76% Li₂O.

The programme is nearing completion, with just two of the ten samples still to be finalised and a 20-30kg concentrate sample to be produced for downstream testing by Savannah's strategic partners.

While the full results will be summarised in a subsequent release, a summary of the available grade recovery results for the variability samples tested is provided below.

Process Grind Size (P80)	Parameter	Global Recovery (5.5% Li ₂ O)	Comments
106 µm	Min	67.4%	
	Ave	71.6%	
	Max	74.6%	
150 µm	Min	70.0%	Increase recovery has been attributed to: - Reduced Li ₂ O losses to slimes - Reduced Li ₂ O losses to magnetic tails.
	Ave	75.3%	
	Max	79.2%	
212 µm	Min	75.4%	Results filtered for 4 of the 10 composites tested.
	Ave	79.5%	
	Max	85.0%	

2.0 FUTURE WORK PLAN

Further work is planned in Q1 and Q2 of 2022 to refine the process operating conditions and investigate further opportunities to improve process recovery. The next stage of the test work programme will include:

- Finalisation of Ore Variability Test Work Programme
- Ceramic Co-Product Test Work Programme
- Water Circuits and Treatment
- Locked Cycle Testing
- Pilot Plant Testing

The finalisation of the process flowsheet is a key project milestone which enables the detailed design for the process to commence as part of the DFS for the project.

Competent Person Statement

The information in this announcement that relates to exploration results is based upon information compiled by Mr Dale Ferguson, Technical Director of Savannah Resources Limited. Mr Ferguson is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2012 edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (JORC Code). Mr Ferguson consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

The information in this release that relates to metallurgy and metallurgical test work has been reviewed by Mr Robert Simmons, MAusIMM, B. Eng. (Chemical Engineering). Mr Simmons is not an employee of the company, but is employed as a contract consultant. Mr Simmons is a Member of the Australasian Institute of Mining and Metallurgy, he has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent person as defined in the 2012 edition of the “Australian Code for the Reporting of Exploration Results, Mineral

Resources and Ore Reserves" (The JORC Code). Mr Simmons consents to the inclusion in this report of the contained technical information in the form and context as it appears.

Regulatory Information

This Announcement contains inside information for the purposes of the UK version of the market abuse regulation (EU No. 596/2014) as it forms part of United Kingdom domestic law by virtue of the European Union (Withdrawal) Act 2018 ("UK MAR").

****ENDS****



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About Savannah

Savannah is the owner of the Barroso Lithium Project, located close to key infrastructure in Northern Portugal which contains the most significant spodumene lithium resource in Western Europe. With a positive Scoping Study which outlined a conventional mine and concentrator operation producing 175,000t of spodumene concentrate per annum, Savannah is progressing the development and environmental licencing of the Barroso Lithium Project. A Definitive Feasibility Study is underway, and Portugal's environmental regulator is currently evaluating Savannah's Environmental Impact Assessment study.

The Company is listed and regulated on the London Stock Exchange's Alternative Investment Market (AIM: SAV). The Company's ordinary shares are also available on the Quotation Board of the Frankfurt Stock Exchange (FWB: SAV), and the Börse Stuttgart (SWB: SAV).