

ASX Release

Monday 21 January 2019

FEED Process Recovery Optimisation

Kalium Lakes Limited (KLL) is pleased to provide an update in relation to process optimisation for the Purification Plant and Evaporation Ponds. The optimisation work was identified as part of the Bankable Feasibility Study (BFS) outcomes, including the required works to be completed during the Front End Engineering and Design (FEED) program at its 100% owned Beyondie Sulphate Of Potash Project (BSOPP).

- The FEED optimisation works have been completed by K-UTEC in conjunction with a number of equipment suppliers in Germany which has continued to build on the previous work completed in BFS. Additional testwork has been performed in order to de-bottleneck the process plant and increase recovery primarily from the flotation tails stream. The work was identified during the BFS but the recovery improvement was not incorporated into the BFS until it could be independently reviewed and confirmed to be of bankable standard.
- The recovery improvement and debottlenecking has seen minor modification to the purification plant and also the evaporation pond layout.
- Overall potassium recoveries (Brine to SOP product) have increased from 72% in the BFS up to 91% during the Front-End Engineering Design (FEED), including evaporation pond losses associated with entrained brine in harvested waste salts.
- SOP product quality remains the same, at a premium 51-52% K₂O product, with negligible chloride and minimal insoluble material (~1.5%).
- The increased recoveries and debottlenecking have the potential to improve production rates with little change to the cost of the process plant. This is currently being compiled as part of the FEED works and the associated report due to be issued this quarter.
- Improved recoveries also mean that less brine is required from the borefields and trenches, potentially reducing the size of the evaporation ponds by almost 20%, requiring less brine extraction and pumping infrastructure.

Managing Director, Brett Hazelden, commented: "Kalium Lakes continues to debottleneck, optimize and improve the process to obtain a high quality SOP product while maximising the use of the Resource with help from our expert Potash consultants K-UTEC in Germany.

"The significant increase to overall potassium recovery is expected to create further upside to the financial aspects of the BSOPP, which is currently being evaluated as part of our FEED works.

"Final testing, optimisation and equipment vendor testwork is now complete, allowing process guarantees to be formally negotiated," Mr Hazelden said.

Beyondie Sulphate of Potash Project Production Process

SOP can be produced by extracting brine (hypersaline water) from underground aquifers, then evaporating the water to precipitate mixed potassium salts which are, in turn, purified to produce the SOP fertiliser, as illustrated in the production process flow chart below:

- (a) **Brine Pumping:** brine is extracted from basal sands (or the lower aquifer) using submersible bores, as well as pumping of trenches from the upper aquifer;
- (b) **Brine Solar Evaporation:** brine is pumped to solar evaporation ponds where it sequentially precipitates calcium, sodium, potassium and magnesium mixed salts in separate ponds;
- (c) **Salt Harvesting:** the mixed potassium salts that have crystallized from the solar evaporation ponds are mechanically harvested and stockpiled;
- (d) **Purification Processing:** the mixed potassium salts are fed into a purification plant facility where the potassium salts are converted into schoenite and separated from halite through a conversion and recycling process. The resultant schoenite slurry then undergoes thermal decomposition and crystallisation into SOP; and
- (e) **Premium SOP Fertiliser:** after drying and compaction in the purification plant, the SOP is ready to be used and sold as a final product.



Brine Pumping from Bores and Trenches
>260 Million litres successfully pumped to date



Brine Solar Evaporation
Located in high evaporation region



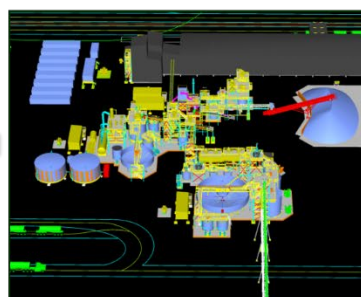
Salt Harvesting
Low cost well proven process in Western Australia



Agriculture Production
Australian and Asian Markets



Premium SOP Fertiliser
High demand, preferred source of potassium for agricultural industry



Purification Processing
Using established German SOP technology

SOP Production Process

*** ENDS ***

Compliance Statement

The information in this document that relates Production Targets has been extracted from the report(s) listed below.

- 17 September 2018: Bankable Feasibility Study Completed With Exceptional Financial Outcomes

The report(s) are available to be viewed on the website at: www.kaliumlakes.com.au

Kalium Lakes confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, Ore Reserve Estimates, Exploration Targets or Production Targets, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Competent Persons Statement

The information in this ASX announcement and the accompanying Report that relates to Exploration Targets, Exploration Results, Mineral Resources and Ore Reserves is based on information compiled by Thomas Schicht, a Competent Person who is a Member of a 'Recognised Professional Organisation' (RPO), the European Federation of Geologists, and a registered "European Geologist" (Registration Number 1077) and Anke Penndorf, a Competent Person who is a Member of a RPO, the European Federation of Geologists, and a registered "European Geologist" (Registration Number 1152).

Thomas Schicht and Anke Penndorf are full-term employees of K-UTECH AG Salt Technologies (K-UTECH).

K-UTECH, Thomas Schicht and Anke Penndorf are not associates or affiliates of Kalium Lakes or any of its affiliates. K-UTECH will receive a fee for the preparation of the Report in accordance with normal professional consulting practices. This fee is not contingent on the conclusions of the Report and K-UTECH, Thomas Schicht and Anke Penndorf will receive no other benefit for the preparation of the Report. Thomas Schicht and Anke Penndorf do not have any pecuniary or other interests that could reasonably be regarded as capable of affecting their ability to provide an unbiased opinion in relation to the Beyondie Potash Project.

K-UTECH does not have, at the date of the Report, and has not had within the previous years, any shareholding in or other relationship with Kalium Lakes or the Beyondie Potash Project and consequently considers itself to be independent of Kalium Lakes.

Thomas Schicht and Anke Penndorf have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Thomas Schicht and Anke Penndorf consent to the inclusion in the Report of the matters based on their information in the form and context in which it appears.

Cautionary Statement Regarding Forward-Looking Information

Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has a reasonable basis for making those statements. This announcement has been prepared in compliance with the current JORC Code 2012 Edition and the current ASX Listing Rules. The Company believes it has a reasonable basis for making the forward-looking statements, including any production targets, based on the information contained in the announcement and in particular the JORC 2012 and NI 43-101 Technical Report - Bankable Feasibility Study.

All statements, trend analysis and other information contained in this document relative to markets for Kalium Lakes, trends in resources, recoveries, production and anticipated expense levels, as well as other statements about anticipated future events or results constitute forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "expect" and "intend" and statements that an event or result "may", "will", "should", "could" or "might" occur or be achieved and other similar expressions. Forward-looking statements are subject to business and economic risks and uncertainties and other factors that could cause actual results of operations to differ materially from those contained in the forward-looking statements. Forward-looking statements are based on estimates and opinions of management at the date the statements are made. Kalium Lakes does not undertake any obligation to update forward-looking statements even if circumstances or management's estimates or opinions should change. Investors should not place undue reliance on forward-looking statements.

Kalium Lakes Limited

ABN: 98 613 656 643

ASX: KLL

Ordinary Shares on Issue: 187,233,644

Board of Directors:

Mal Randall	Non-Executive Chairman
Brett Hazelden	Managing Director
Rudolph van Niekerk	Executive Director
Brendan O'Hara	Non-Executive Director

Chief Financial Officer and Joint Company Secretary:

Christopher Achurch

Joint Company Secretary:

Gareth Widger

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