

ASX Release

Monday 4 March 2019

Lower Operating Cost and Increased Production For BSOPP

Highlights

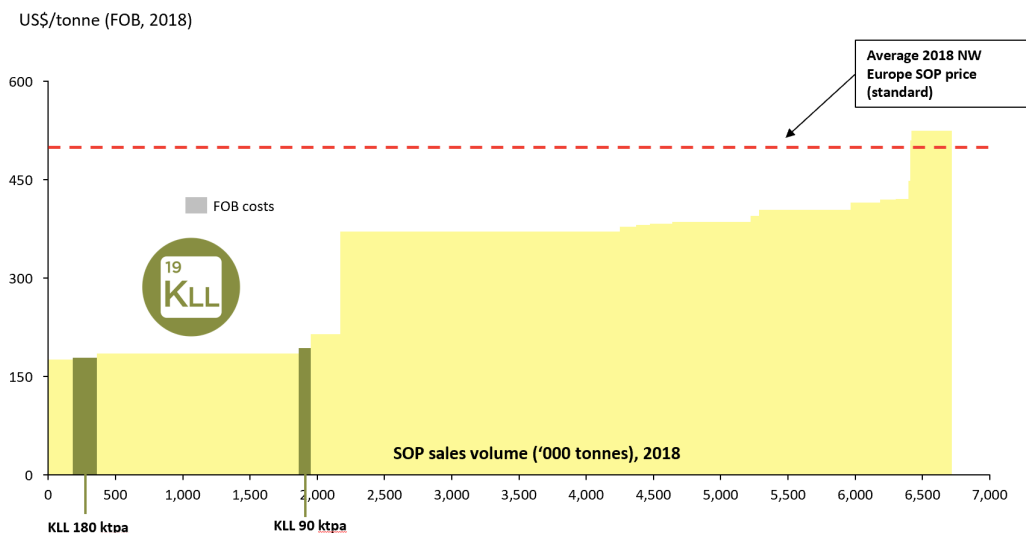
- **Front-End Engineering and Design (FEED) works for the Beyondie Project now complete, delivering even further improved production and financial outcomes.**
- **10% Increased Production Rate to 90ktpa SOP Stage 1 facility ramping up to 180ktpa SOP Full Scale Facility.**
- **Decreased LOM Operating Cost ~US\$178-207/t FOB All-in Sustaining Cost (previously ~US\$226-263/t).**
- **Beyondie SOP Project to become first quartile low cost, high margin, long life producer.**
- **Pre-production Capital Cost of ~A\$216M including additional NAIF funded infrastructure and larger contingency of 15.6% (now \$29M, previously \$15M) to increase certainty of delivering within budget.**
- **Improved Financials Outcomes:**
 - **Pre-tax NPV₈ A\$606M, IRR of 20.3% (previously A\$575M and 20.4%).**
 - **Average EBITDA of A\$126Mpa, EBITDA margin of 61% (previously A\$116Mpa and 61%).**
- **Independent technical due diligence reviews initiated by the banks have been completed, confirming both the BFS and FEED outcomes.**

Kalium Lakes Limited (Kalium Lakes) (ASX:KLL) is pleased to announce the completion of the Front-End Engineering and Design (FEED) works for the 100% owned Beyondie Sulphate Of Potash Project (Beyondie SOP Project or BSOPP) in Western Australia. The FEED optimisation works have been completed by German experts K-UTEC in conjunction with a number of equipment suppliers in Germany which has continued to build on the previous work completed in the Bankable Feasibility Study (BFS) (refer to the ASX announcement dated 18 September 2018).

Key FEED works and outcomes include:

- **Recovery Improvement:** Overall system potassium recovery improvement from 72% to 91% as a result of de-bottlenecking of the process plant and an increase in the potassium recovery from the flotation tails stream.
- **Increased Production Rate:** As a result of the recovery improvement, production rates have increased by 10% to a 90ktpa SOP Stage 1 facility ramping up to 180ktpa SOP Full Scale Facility.
- **Initial Mine Life in excess of 30 years (up to 50 years):** Mine plans have been updated to reflect the recovery improvement.
- **Reduction in Pond Size:** Total evaporation pond size has reduced from 445 ha to 399 ha.
- **Less Brine Extraction:** Improved recoveries also mean that less brine is required to be extracted from the borefields and trenches, reducing brine extraction and pumping infrastructure.
- **SOP product quality:** Remains the same, at a premium 51-52% K₂O product, with negligible chloride and minimal insoluble material.

- **NAIF Infrastructure Funding:** As a result of the recently announced A\$74 million NAIF loan package (refer to the ASX Announcement dated 20 February 2019), the base case project now includes installing key infrastructure at the commencement of the project including a gas pipeline and gas fired power station. These items were included in the BFS as an alternative outcome with capital and operating costs highlighted.
- **Decreased Life of Mine (LOM) Operating Cost:** As a result of Kalium Lakes owning and operating the power station and gas pipeline (in place of trucked LNG bullets and third party operated power station), plus savings associated with recovery improvements, LOM Operating costs have decreased significantly to ~US\$178-207/t FOB AISC (previously ~US\$226-263/t).
- **Kalium Lakes to become the 2nd or 3rd lowest cost producer in the world.**



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Source: Integer, Argus Media

Note: Costs refer to cash-operating items and excludes sustaining capital, and royalties

- **Pre-production Capital Cost of ~A\$216M:** Capital costs are reduced through less brine extraction infrastructure and condensed pond size. Capital costs increase as a result of the nett additional NAIF-funded infrastructure (\$39M), a slightly augmented back end of the process plant to boost production rate and a larger 15.6% contingency (now \$29M, previously \$15M) to enhance certainty of delivering to budget.
- **Material Contracts Advanced:** The Company's contracting strategy has been endorsed by proposed funding groups and independent reviewers. Key material contracts including process design and equipment supply; EPC/M, power station, gas supply and product haulage contracts are materially advanced which continue to confirm the BFS/FEED capital and operating cost outcomes.
- **Capital Cost estimate meets AACE Class 2:** The FEED capital cost estimate complies with the AACE International® guidelines for developing a Class 2 estimate.

ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic				
	LEVEL OF PROJECT DEFINITION Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges [a]	PREPARATION EFFORT Typical degree of effort relative to least cost index of 1 [b]	
Class 5	0% to 2%	Concept Screening	Capacity Factored, Parametric Models, Judgment, or Analogy	L: -20% to -50% H: +30% to +100%	1	
Class 4	1% to 15%	Study or Feasibility	Equipment Factored or Parametric Models	L: -15% to -30% H: +20% to +50%	2 to 4	
BFS Cost Estimate Exceeded	Class 3	10% to 40%	Budget, Authorization, or Control	Semi-Detailed Unit Costs with Assembly Level Line Items	L: -10% to -20% H: +10% to +30%	3 to 10
FEED Cost Estimate Meets	Class 2	30% to 70%	Control or Bid/Tender	Detailed Unit Cost with Forced Detailed Take-Off	L: -5% to -15% H: +5% to +20%	4 to 20
	Class 1	50% to 100%	Check Estimate or Bid/Tender	Detailed Unit Cost with Detailed Take-Off	L: -3% to -10% H: +3% to +15%	5 to 100

- **Independent Technical Reviews:** Independent technical reviews initiated by the banks have been completed confirming both the BFS and FEED outcomes.
- **No change to Ore Reserves or Mineral Resources.**
- **Improved Financial Outcomes:**
 - Pre-tax NPV₈ A\$606M, IRR of 20.3% (previously A\$575M and 20.4%).
 - Average EBITDA of A\$126Mpa, EBITDA margin of 61% (previously A\$116Mpa and 61%).
 - No changes have been made to the material assumptions utilised in the financial model, other than as detailed in this announcement.
- **Low Cost Financing Identified:** NAIF, German Government Export Credit Agency (ECA) Scheme (Euler Hermes).

Managing Director, Brett Hazelden, commented: “The completion of FEED works continues to confirm and improve on our Bankable Feasibility Study released in September last year. The works incorporate feedback from independent reviewers, financial institutions, our technical team as well as our material construction and operation contractors.

“The significant reduction in operating costs means that Kalium Lakes is likely to become one of the lowest cost producers in the world. Ensuring we can operate profitably, throughout the normal commodity pricing cycles, continues to be a key focus for the Company.

“The opportunity to install and own the power station and gas pipeline infrastructure, not only provides for significantly lower operating costs but also provides essential infrastructure for SOP production expansion and future magnesium by-product delivery,” Mr Hazelden said.

BFS Update - Key Assumptions

Assumption	Completion of FEED	Original BFS
Production Target	90ktpa SOP Stage 1 facility ramping up to 180ktpa SOP Full Scale Facility	82ktpa SOP Stage 1 facility ramping up to 164ktpa SOP Full Scale Facility
Brine Extraction		
• Stage 1 Extraction Bores	20 - 40	36 – 41
• Stage 1 Extraction Trenches	21 – 45 km	~58 km
• Average Annual Brine Volume	7 – 14 Glpa	9 – 14 Glpa
Evaporation Ponds Area	399 – 798 ha	445 – 890 ha
Primary Evaporation Pond Recovery	94%	94%
Purification Plant and Recycle Ponds Recovery	96%	77%
Total Recovery	91%	72%
Infrastructure		
• Gas Supply	Gas Pipeline	Trucked LNG
• Power Station	KLL Owner Operated	3 rd Party BOO
Operating Cost	~US\$178-207/t FOB All-in Sustaining Cost	~US\$226-263/t FOB All-in Sustaining Cost
Capital Cost	A\$216M Includes Gas Pipeline & Power Station \$39M Includes Contingency of \$29M	A\$159M Excluded Gas Pipeline & Power Station Included Contingency of \$15M
BFS Accuracy	+/- 5% Class 2 (AACE)	+/- 15% Class 3 (AACE)

Refer to the BFS in the ASX announcement by Kalium Lakes dated 18 September 2019, which is also available at the Company's website (www.kaliumlakes.com.au), for further details.

All material changes to assumptions from the original BFS are included in this ASX announcement.

Cautionary Statement

The Company advises that while the FEED Base Case is predominantly based on Ore Reserves (89%) and Indicated Mineral Resources (7%), it is also partly based on Inferred Mineral Resources (4%) over the 30 year Mine Life. Further the Company advises that the Bank Finance Case is based on 100% Ore Reserves over the 30 year Mine Life and 81% Ore Reserves over the 50 year mine life. No Exploration Target material has been included in the economic valuation or production target of the Beyondie SOP Project. There is a lower level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Inferred Mineral Resources will add to the economics of the Beyondie SOP Project. However, in preparation of the production target and associated NPV, each of the modifying factors was considered and has therefore passed the economics test.

Next Steps

With FEED work now complete, Kalium Lakes is progressing towards completion of all financing tasks and a Final Investment Decision in the second quarter of 2019. The upcoming major milestones and indicative timeline is set out below.

Milestones	Indicative Timeline
Continue Early Works Construction Activities	Ongoing
Complete Front-End Engineering Design (FEED)	Complete
Finalise Binding Offtake Agreement	Q1 2019
Finance Due Diligence Complete	Q1 2019
Award EPC/M and Lump Sum Contracts	Q1/Q2 2019
Receive Final Approvals for Government Agencies	Q2 2019
Project Financing Complete	Q2 2019
Final Investment Decision (FID)	Q2 2019
Full Construction Activities	~15 Months from FID
Commissioning and Ramp Up to Name Plate Throughput	During 2020

ENDS

Compliance Statement

The information in this document that relates to Exploration Targets, Exploration Results, Mineral Resources and Ore Reserves have been extracted from the 18 September 2018: Bankable Feasibility Study Completed with Exceptional Financial Outcomes (Including the attachment, JORC (2012) and NI 43-101 Technical Report, compiled by German Potash Experts and Competent Persons, K-UTEC AG Salt Technologies (K-UTEC)).

The report is 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 or Exploration 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 Bankable Feasibility Study.

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-UTEC AG Salt Technologies (K-UTEC).

K-UTEC, Thomas Schicht and Anke Penndorf are not associates or affiliates of Kalium Lakes or any of its affiliates. K-UTEC 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-UTEC, 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-UTEC 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

Certain information in this document refers to the intentions of Kalium Lakes, but these are not intended to be forecasts, forward looking statements or statements about the future matters for the purposes of the Corporations Act or any other applicable law. The occurrence of the events in the future are subject to risk, uncertainties and other actions that may cause Kalium Lakes' actual results, performance or achievements to differ from those referred to in this document. Accordingly Kalium Lakes and its affiliates and their directors, officers, employees and agents do not give any assurance or guarantee that the occurrence of these events referred to in the document will actually occur as contemplated.

Statements contained in this document, including but not limited to those regarding the possible or assumed future costs, performance, dividends, returns, revenue, exchange rates, potential growth of Kalium Lakes, industry growth or other projections and any estimated company earnings are or may be forward looking statements. Forward-looking statements can generally be identified by the use of words such as 'project', 'foresee', 'plan', 'expect', 'aim', 'intend', 'anticipate', 'believe', 'estimate', 'may', 'should', 'will' or similar expressions. These statements relate to future events and expectations and as such involve known and unknown risks and significant uncertainties, many of which are outside the control of Kalium Lakes. Actual results, performance, actions and developments of Kalium Lakes may differ materially from those expressed or implied by the forward-looking statements in this document. Such forward-looking statements speak only as of the date of this document. There can be no assurance that actual outcomes will not differ materially from these statements. To the maximum extent permitted by law, Kalium Lakes and any of its affiliates and their directors, officers, employees, agents, associates and advisers:

- disclaim any obligations or undertaking to release any updates or revisions to the information to reflect any change in expectations or assumption;
- do not make any representation or warranty, express or implied, as to the accuracy, reliability or completeness of the information in this document, or likelihood of fulfilment of any forward-looking statement or any event or results expressed or implied in any forward-looking statement; and
- disclaim all responsibility and liability for these forward-looking statements (including, without limitation, liability for negligence.

Corporate Profile



Kalium Lakes Limited is an exploration and development company, focused on developing the Beyondie Sulphate Of Potash Project in Western Australia with the aim of producing Sulphate of Potash (SOP), a high yield, premium fertiliser, for both domestic and international markets. There is currently no SOP production in Australia.

Approaching a Final Investment Decision, the Company has just completed a Bankable Feasibility Study for the Project (the first BFS for any Australian deposit) which confirmed the Project is technically and financially robust, with first production anticipated in 2020.

The Project aims to commence production at 90ktpa of SOP, before ramping up to 180ktpa of SOP for domestic and international sale. An initial mine life of between 30-50 years is anticipated for a project designed to be a low cost, long life and high margin producer.



The Carnegie Joint Venture (CJV) is focussed on the exploration and development of the Carnegie Potash Project (CPP) in Western Australia, which is located approximately 220 kilometres east-north-east of Wiluna and covers a total area of approximately 3,081 square kilometres.

The CJV is a Joint Venture between Kalium Lakes (KLL, 70% Interest) and BCI Minerals (BCI, 30% interest). The JV Companies have endorsed proceeding to a staged Pre-Feasibility Study, with an initial focus on securing tenure and access to all required tenements.

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 & Joint Company Secretary:

Christopher Achurch

Joint Company Secretary:

Gareth Widger



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