



## ASX Release

2 September 2014

### Company Details

ASX Code:	STB
Share Price	\$0.19
Market Cap	\$26M
Shares on issue	139M
Company options	23M
Cash at Bank	\$11M

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## Extension of PFS following favourable results

South Boulder Mines (ASX: STB) ("South Boulder" or "Company") has extended its prefeasibility study ("PFS") on the Colluli Resource in Eritrea, East Africa, to enable consideration of the impact of the following recent favourable developments:

- The Company has completed its preliminary design for the production of potassium sulphate (sulphate of potash) from the Colluli Resource.
- The process utilises all potassium bearing salts in the Colluli Resource which minimises the mining strip ratio. Scoping studies completed in February 2014 demonstrated mining cost reductions of over A\$50 per tonne of product relative to the staged development model by using all potassium bearing salts in the resource.
- The process utilises proven technology and is employed in the major potassium sulphate production centres in Utah, Chile and China.
- The process design currently produces standard and granular potassium sulphate.
- There is a substantial price premium in producing potassium sulphate over potassium chloride, and is the best and most value accretive development option for the resource.

Metallurgical testwork has identified two potential internal configurations of grinding and flotation. Given the implications on capital and operating costs, in the interests of achieving the right foundation work, the PFS delivery will be extended to February 2015. It is envisaged the DFS delivery will not be impacted and is still on track for mid-2015. The project team has been running PFS and DFS workstreams in parallel, and is well placed to complete many of the other workstreams while the processing plant configuration is refined.

Managing Director of South Boulder Mines, Paul Donaldson, said:

"While we had initially planned to release the results of the prefeasibility study by the end of 2014, we feel the process we are looking to adopt and the favourable implications on capital and operating costs are significant and need to be investigated more thoroughly.

“We feel that it is fundamentally important to get the groundwork right and therefore we have extended the release of the PFS results until February 2015.”

Mr Donaldson said the process would provide the lowest energy input, highest potassium yield for the production of potassium sulphate.

“The process design ticks all the boxes so far – it uses all salts in the resource, it takes advantage of the resource composition to produce a premium potassium sulphate product, it maximises recovery by taking advantage of the ambient conditions for the evaporation recovery ponds and it is proven technology used in existing operations.

“The key difference between Colluli and the key sulphate of potash producers is that Colluli starts with the raw materials in salt form rather than brine which must first be converted to salts. This gives a substantial advantage in reducing the plant’s energy footprint and completely eliminating the evaporation step to produce the feed salts.”

General Manager of ENAMCO, Berhane Habtemariam, said;

“While we were expecting to have the PFS completed by the end of the year, the Colluli Mining Share Company Board is supportive of exploring the possibility of improving the internal configuration of the processing plant to ensure the appropriate consideration is given to opportunities to reduce capital and operating costs.”

### **The process plant**

The process plant removes sodium chloride from the upper and lower layer salts using conventional flotation, and then combines the resulting products (potassium chloride and schoenite) which react under ambient conditions to form potassium sulphate. Recovery of potassium is improved by capturing the process brines and evaporating them to precipitate potassium bearing salts which are fed back to the processing plant.

Given the substantial price premium of potassium sulphate over potassium chloride, and the simple processing that is required to combine the upper and lower salts of Colluli, this is the best and most value accretive development option for the resource.

**More information:**

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Paul Donaldson  
**MANAGING DIRECTOR**

Amy Just  
**COMPANY SECRETARY**

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## About South Boulder Mines Ltd

South Boulder is an ASX-listed (ASX: STB) resources company currently developing the emerging, world-class Colluli Potash Project located in Eritrea, Africa. The Colluli Potash Project is located in the Danakil Depression region of Eritrea ~65km from the coast comprising approximately 400km<sup>2</sup>. South Boulder Mines Limited has been actively exploring for potash at the Colluli Potash Project in Eritrea since 2009. Colluli is the world's shallowest potash deposit (starting at 16m), facilitating the low capex open pit mining and favourably positioned to supply the world's fastest growing markets.

The JORC/NI43-101 Compliant Mineral Resource Estimate for the Colluli Potash Project now stands at 1.08 billion tonnes @ 18% KCl for 194Mt of contained potash. Substantial project upside exists in higher production capacity and market development for other contained products. South Boulder Mines Ltd is working with the Eritrean government to developing a modern, open pit potash mine.

## Competent Persons and Responsibility Statement

The Colluli Potash Project has a current JORC/NI43-101 Compliant Measured, Indicated and Inferred Mineral Resource Estimate of 1,079.00Mt @ 17.97% KCl or 11.35% K<sub>2</sub>O (total contained potash of 194.09Mt KCl or 122.61Mt K<sub>2</sub>O). The resource contains 261.81Mt @ 17.94% KCl or 11.33% K<sub>2</sub>O of Measured Resources, 674.48Mt @ 17.98% KCl or 11.36% K<sub>2</sub>O of Indicated Resources and 143.50Mt @ 18.00% KCl or 11.37% K<sub>2</sub>O of Inferred Resources.

This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported by independent consultants ERCOSPLAN and announced by South Boulder on 16 April 2012.

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Greg Knox using estimates supplied by South Boulder Mines Ltd under supervision by Ercosplan. Dr Henry Rauche and Dr Sebastiaan Van Der Klauw are co-authors of the JORC and NI43-101 compliant resource report. Greg Knox is a member in good standing of the Australian Institute of Mining and Metallurgy and Dr.s' Rauche and Van Der Klauw are members in good standing of the European Federation of Geologists (EurGeol) which is a "Recognised Overseas Professional Organisation" (ROPO). A ROPO is an accredited organisation to which Competent Persons must belong for the purpose of preparing reports on Exploration Results, Mineral Resources and Ore Reserves for submission to the ASX.

Mr Knox, Dr Rauche and Dr Van Der Klauw are geologists and they have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they have undertaken to qualify as a Competent Person as defined in the 2004 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Knox, Dr Rauche and Dr Van Der Klauw consent to the inclusion in the report of the matters based on information in the form and context in which it appears.

## Quality Control and Quality Assurance

South Boulder Exploration programs follow standard operating and quality assurance procedures to ensure that all sampling techniques and sample results meet international reporting standards. Drill holes are located using GPS coordinates using WGS84 Datum, all mineralisation intervals are downhole and are true width intervals. Assay values are shown above a cut-off of 6% K<sub>2</sub>O. The samples are derived from HQ diamond drill core, which in the case of carnallite ores, are sealed in heat sealed plastic tubing immediately as it is drilled to preserve the sample. Significant sample intervals are dry quarter cut using a diamond saw and then resealed and double bagged for transport to the laboratory. Halite blanks and duplicate samples are submitted with each hole. Chemical analyses were conducted by Kali-Umwelttechnik GmbH Sondershausen, Germany utilising flame emission spectrometry, atomic absorption spectroscopy and ion chromatography. Kali-Umwelttechnik (KUTEC) Sondershausen have extensive experience in analysis of salt rock and brine samples and is certified according to DIN EN ISO/IEC 17025 by the Deutsche AkkreditierungssystemPrüfwesen GmbH (DAR). The laboratory follow standard procedures for the analysis of potash salt rocks chemical analysis (K<sup>+</sup>, Na<sup>+</sup>, Mg<sup>2+</sup>, Ca<sup>2+</sup>, Cl<sup>-</sup>, SO<sub>4</sub><sup>2-</sup>, H<sub>2</sub>O) and X-ray diffraction (XRD) analysis of the same samples as for chemical analysis to determine a qualitative mineral composition, which combined with the chemical analysis gives a quantitative mineral composition.