# ASX Release 29th June 2012

#### **Corporate Details** ASX Code: STR Germany: SO3-Fra OTC/ADR: **SBMSY** Share Price: \$1.00 Market Cap: \$116M Shares on issue: 116.2M **STB** Options: 10.4M (\$6.7M) Cash/NTA: \$18.0M Top 40

shareholders: 65%

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# Listed Equity Holdings

(ASX: MZM)	5.382M
(ASX: AVZ)	0.400M
(ASX:LTX)	1.016M
(ASX: BUX)	1.610M
(BUX options)	0.750M
(CDNX: CNI.V)	0.121M
(CDNX: SMP.V):	2.500M
Auvex (Pte):	0.500M

# Feasibility Study points to lower costs at Colluli Potash Project

South Boulder Mines Ltd (ASX:STB) is pleased to announce that the preliminary findings from the Definitive Feasibility Study (DFS) on its Colluli Potash Project in Eritrea show significant opportunities to optimise capital and operating costs.

The DFS on the Colluli open pit potash mining and processing project has focused on potash processing, solar decomposition, mining selectivity and port location optimisation. These studies show significant opportunities to optimise the capital and operating expenditures outlined in the November 2011 Engineering Scoping Study (*ESS, see Table 1*).

The preliminary findings highlight various benefits including processing of Carnallite as well as Sylvinite, which will result in significantly cheaper mining costs due to stripping ratios being less than those used in the ESS.

Importantly, strong technical support is emerging for a significant expansion of potash production capacity beyond the planned start-up capacity of 1Mtpa due to the ability to process Carnallite mineralisation efficiently.

# **Carnallite Processing**

The current JORC/NI 43-101 Compliant Mineral Resource Estimate for the Colluli Deposit (see *Table 2*) contains 194Mt of contained potash, of which ~20% is attributed to Carnallite mineralisation. This represents substantial upside for the project because mining and processing of the Carnallite was not included in the ESS.

Early investigations conducted by lead consultants Ercosplan indicate that a simple solar decomposition circuit can be added to the processing route to allow potash to be extracted from Carnallite mineralisation in the same processing facility. Indications are that processing costs for Carnallite will only be marginally higher than the corresponding processing cost for the Sylvinite mineralisation, which is very encouraging.



The average thickness of the Sylvinite resource is ~4.7m and the average thickness of the Carnallite resource is ~8.8m, resulting in a combined average mineralisation thickness of ~14m.

The inclusion of Carnallite mining and processing in the DFS is highly significant because it allows less waste material to be mined to produce a tonne of potash. This will have a strong impact on the overall operating costs. It also allows for cheaper expansion of mining capacity.

Preparation for solar decomposition testwork, under local conditions at the Colluli site is underway, with commencement scheduled for October 2012.

# **Processing Recoveries**

The use of a solar decomposition circuit has the potential to efficiently remove excess waste magnesium chloride at Colluli increasing recoveries of potash from both Sylvinite and Carnallite mineralisation. Therefore significant improvements to mining and processing economics are expected when the DFS is finalised.

# **Mining Selectivity**

The use of surface continuous miners is expected to allow selectivity in mining which has the overall effect of increasing the mined and processed grade of potash mineralisation.

Due to the creation of a more detailed and selective geological resource model, it is expected that there will be material increases in potash grades mined due to selective removal of lower grade and internal waste material. The current close spaced metallurgical drilling program (see ASX announcement dated 14<sup>th</sup> May 2012) is expected to provide key information for this evaluation.

It is common practice for surface continuous mining machinery to be able to mine within 20cm of a geological or potash grade boundary.

# **Optimised Port Location**

The DFS technical team, subject to final approvals, has identified the most economically attractive location for a product export terminal in the Anfile Bay area. The site requires only a short jetty to establish a transhipment barge operation.

South Boulder Managing Director Lorry Hughes said the preliminary DFS findings highlighted the world-class potential of the Colluli Project.

"The economics of this already-robust project continue to improve as the technical studies progress," Mr Hughes said.

"The increased resource and the positive findings from additional studies are indicating a mine life significantly longer than indicated it the scoping study."

"We are confident that the DFS will show Colluli to be a highly attractive investment proposition for financiers, paving the way for rapid development and the start of production and cash flow."



Stage 1 Economics Sylvinite Only					
Pre-production Capital (including 15% contingency)	US\$ 0.74 bn				
Pre-Tax NPV (12% Discount Rate)	US\$ 1.33 bn				
Internal Rate of Return	40.60%				
Project Revenue	US\$ 6.03 bn				
MOP Production Rate	1Mt p.a.				
Mining Method	Open pit				
Study Mine Life	17 years				
October 2011 Resource Utilisation	~ 16%				

Table 1: November 2011 Engineering Scoping Study Financials

	Tonnes (Mt)	Grade (% KCI)	Total KCI (Mt)	Grade (% K <sub>2</sub> O) <sup>*</sup>	Total K <sub>2</sub> O (Mt)
Measured	261.91	17.94	46.98	11.33	29.68
Indicated	675.00	17.98	121.36	11.36	76.67
Inferred	143.50	18.00	25.78	11.37	16.29
Current April-12 Total Resource	1,080.41	17.98	194.12	11.35	122.64
Previous Oct-11 Total Resource	564.40	18.60	104.96	11.75	66.31
Variance	91.43%	-3.35%	+ 84.95	-3.35%	84.95%

Table 2: Total JORC/NI43-101 Compliant Mineral Resource Estimate (see disclaimer below).

<sup>\*</sup> KCI is commonly expressed as  $K_2O$  according to the formula (KCI \* 0.6317 =  $K_2O$ ). The recent KCI contract FOB price is estimated at around US\$ 470/t.



#### **Investor Coverage**

Recent investor relations, corporate videos and broker/media coverage on The Company's projects can be viewed on the website in the "Media Centre" and "Investor Centre" sections by following the links www.southbouldermines.com.au and www.abid.co.

#### About South Boulder Mines Ltd

Listed in 2003, South Boulder Mines (ASX: STB) is a diversified explorer focused on potash, nickel and gold. South Boulder has a 90% interest in the Colluli Potash Project in Eritrea and a 100% interest in the Duketon Gold Project in Western Australia.

The Colluli Potash Project has a current JORC Compliant Measured, Indicated and Inferred Mineral Resource Estimate comprised of 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 for a total 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); **This includes higher grade Sylvinite of 114.60Mt @ 28.56% KCl or 18.04% K<sub>2</sub>O**. The current resource is included in an exploration target of 1.25 – 1.75 billion tonnes @ 18-20% KCl ## (see disclaimer below).

An engineering scoping study for the production of 1Mt p.a. of potash demonstrated an estimated capital cost of US\$0.74bn generating a Pre-tax NPV<sub>12</sub> of US\$1.33bn. A Definitive Feasibility Study into open pit mining and processing of the resource is underway with initial production scheduled for 2016 or sooner. South Boulder has strong support from the Eritrean Government to build a long term, economically and environmentally sustainable resource project.

Within the Duketon Gold Project area, South Boulder entered a farm-out Joint Venture (JV) Agreement with Independence Group NL, whereby Independence can earn a 70% interest in the nickel rights on select tenements held by South Boulder in the Duketon Project, by the completion of a Bankable Feasibility Study within 5 years of the grant of the relevant tenement.

#### About the Duketon Nickel Joint Venture

The Duketon Nickel Joint Venture (DNJV) has had recent success at The Rosie and C2 Nickel sulphide prospects where drilling has defined intercepts of *5.20m* @ *9.2% Ni*, *1.09% Cu*, *0.21% Co and 7.09g/t PGE's at Rosie and 50m* @ *0.92% Ni including* **37m** @ *1.05% Ni at C2*. The deposits are located approximately 120km NNW of Laverton, W.A in the Duketon Greenstone Belt. The deposits are approximately 2km apart and the mineralisation at both prospects is considered open in most directions. A Mining Lease was granted over the Rosie and C2 deposits on the 19<sup>th</sup> of November. A Maiden JORC Compliant Mineral Resource Estimate has been compiled for the Rosie deposit; please refer to the Company's 25<sup>th</sup> January 2012 ASX Announcement for details.

#### More information:

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Lorry Hughes	Kerry Rudd	Liam Cornelius	Flavio Garofalo	Dr. Chris Gilchrist
CEO/Managing Director	Executive Assistant	Executive Director	CFO	Non-Exec Director

#### ## 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. The current Mineral Resource Estimate is included in the current exploration target of 1.25 – 1.75 billion tonnes @ 18-20% KCl. The potential quantity and grade of the total current exploration target which includes the current Mineral Resource Estimate is conceptual in nature and there has been insufficient exploration to define a Mineral Resource other than the current Mineral Resource Estimate and it is uncertain if further exploration will result in the determination of a Mineral Resource Estimate.

This ASX release has been compiled by Lorry Hughes using information on exploration results and Mineral Resource 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. Lorry Hughes 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 Hughes, Mr Rauche and Mr 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 Hughes, Mr Rauche and Mr van der Klauw consent to the inclusion in the report of the matters based on his 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 ionchromatography. Kali-Umwelttechnik (KUTEC) Sondershausen1 have extensive experience in analysis of salt rock and brine samples and is certified according by DIN EN ISO/IEC 17025 by the Deutsche Akkreditierungssystem Prüfwesen GmbH (DAR). The laboratory follow standard procedures for the analysis of potash salt rocks • chemical analysis (K+, Na+, Mg2+, Ca2+, Cl-, SO42-, H2O) 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.



ASX Report 29<sup>th</sup> June 2012