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South Boulder Confirms 1.1 Bt Maiden Ore Reserve for Colluli

Highlights

- Maiden JORC (2012) potassium salt Ore Reserve estimate of 1.1billion tonnes at 10%K_2O equivalent
  - 287 million tonne Proved Ore Reserve
  - 820 million tonne Probable Ore Reserve
- Over 85% of Measured and Indicated Resource included in Ore Reserve Estimate
- Ore Reserve estimate based on JORC 2012 Mineral Resource Estimate and Colluli Prefeasibility Study released in February 2015
- Substantial project upside and capacity potential
  - More than 200 year mine life at modelled sulphate of potash (SOP) production rates
  - Colluli potassium salt combination capable of producing a diverse range of potash products including (SOP), potassium magnesium sulphate (SOP-M) and potassium chloride (Muriate of Potash or MOP)

Overview

South Boulder Mines Ltd (ASX: STB) ("South Boulder" or "the Company") is pleased to report its maiden JORC (2012) Ore Reserve estimate for the Colluli Potash Project ("Colluli" or "the Project") in Eritrea, East Africa.

The Ore Reserve estimate for Colluli is 1.1 billion tonnes of potassium bearing salts @ 10% K_2O comprising 287 million tonnes Proved and 820 million tonnes Probable Ore Reserve. The equivalent contained K_2SO4 (sulphate of potash) is approximately 205 million tonnes.[1]

South Boulder Mines Managing Director, Paul Donaldson said "This is an outstanding result and reaffirms the significance of the Colluli resource. The shallow mineralisation of the potassium bearing salts in combination with highly favourable ambient conditions, allows open cut mining of the resource, giving high resource recovery."

"Important to note is the unique mineralogical composition of the Danakil evaporite deposit, which allows the production of a diverse range of potash products including sulphate of potash (SOP), potassium magnesium sulphate (SOP-M) and potassium chloride (MOP). The very large Mineral Resource and associated Ore Reserve estimate allows the project substantial growth and

product diversification over time. Once the definitive feasibility study for the two phase production of SOP has been completed, work will commence on the logical pipeline of projects that will grow the project to its full potential," he said.

Ore Reserve Estimate

The 1.1 billion tonne Ore Reserve comprises 287 million tonnes of Proved and 820 million tonnes of Probable Ore Reserve shown below in Table 1. The estimate is based on the Mineral Resource estimate reported in February 2015, and was prepared under the direction of the Competent Person using accepted industry practice and reported according to the 2012 JORC Code.

The Ore Reserve is based on Measured and Indicated Mineral Resources, and 3D resource block models developed in January 2015 from geostatistical assessment of predominantly diamond drillhole sample results. The Mineral Resource is converted to Ore Reserve by developing the diluted resource model and applying pit optimisation and mine scheduling to determine economically viable blocks to recover and process.

Modifying factors, including mining, metallurgical and long term cost assumptions, are summarised below in Appendix A in the form required by the JORC Code 2012 (referred to within the JORC Code as "Table 1") as a checklist or reference when preparing Public Reports on Exploration Results, Mineral Resources and Ore Reserves.

After consideration of mining, metallurgical, social, environmental, statutory and financial aspects of the Project, the Proved Ore Reserve estimate is based on Mineral Resources classified as Measured, while the Probable Ore Reserve estimate is based on Mineral Resources classified as Indicated.

Table 1: JORC 2012 Colluli Ore Reserve at 19 May 2015

	Proved		Probable		Total			
Occurrence	**Mt**	**K_2O Equiv %**	**Mt**	**K_2O Equiv %**	**Mt**	**K_2O Equiv %**	**K_2SO_4 Equiv %**	**K_2SO_4 Equiv Mt**
Sylvinite (KCl.NaCl)	78	15	174	12	252	13		
Carnallite ($KCl.MgCl_2.H_2O$)	79	7	283	8	362	8		
Kainitite ($KCl.MgSO_4.H_2O$)	130	12	363	11	493	11		
Total	**287**	**11**	**820**	**10**	**1107**	**10**	**18.5**	**205**

[1] Equivalent K_2SO_4 (SOP) calculated by multiplying $\%K_2O$ by 1.85.

Mineral Resource

The JORC 2012 compliant Mineral Resource is shown in Table 2. The Mineral Resource comprises 1.289 billion tonnes of potassium bearing salts at an average grade of 11% K_2O. The Mineral Resource estimate was conducted and completed by AMC Consultants, and is a review of previous work conducted by Ercosplan Ingenieurgesellschaft Geotechnik und Bergbau mbH (Ercosplan). Ninety seven percent of the Mineral Resource is classified as Measured and Indicated.

Table 2: JORC 2012 Colluli Mineral Resource Estimate and Interpretation

Occurrence	Tonnes (Mt)	K_2O Equiv	Proportion Measured and Indicated	Contained Potassium (Mt)[1]
Sylvinite (KCl.NaCl)	265	12%	94%	27
Carnallite ($KCl.MgCl_2.H_2O$)	398	8%	96%	26
Kainitite ($KCl.MgSO_4.H_2O$)	626	12%	99%	63
Total	**1289**	**11%**	**97%**	**117**

[1] Based on 83% by weight contained potassium in K_2O

The Measured and Indicated Mineral Resources reported in the Mineral Resource Estimate are inclusive of those Mineral Resources modified to produce the Colluli Ore Reserve. The documentation supporting the Mineral Resource estimate (including Sections 1, 2 and 3 of the JORC Code Table 1 checklist) can be found at http://www.southbouldermines.com.au/wp-content/uploads/Colluli-Review-Delivers-Mineral-Resource-Estimate-of-1.289Bt.pdf (Refer to ASX release 25 February 2015).

Summary of Material Information

Mining

Open pit mining method. For potash and rock salt layers within the resource, 110t class surface miners directly loading 90t class rear dump trucks have been selected and modelled. Similar continuous miner technology is used in underground potash mines.

For clastic overburden and bischofite, 190t and 110t class excavators and 90t class rear dump trucks have been selected and modelled. Clastic overburden will be pushed down to excavators by 50t track bulldozers. This method is commonly used in open pit operations and well understood.

The choice of mining method enables selective extraction of the potash ore units, minimising mining dilution and ore loss, and eliminating the requirement for drill and blast. Staggered benches in the pit development level stripping ratio over the mine-life, enhance economics and provide consistent plant feed.

Optimum pit limits were determined using Gemcom Whittle 4X computer software. Process plant feed targets were maintained in the mine schedule using Minemax Scheduler strategic mine scheduling software and XPAC mine production scheduling software. The optimisation and schedules considered Measured and Indicated Resources only.

The Ore Reserve includes dilutant materials that are expected to be mined with the potassium salts, as determined by adding “skins” of dilution to the contact horizons of the relevant potassium containing horizons.

The content of the pit designs includes the in situ Ore Reserve and 4.5 billion tonnes of waste material, resulting in a life of mine stripping ratio of 3.6 waste tonnes to 1.0 ore tonne.

Financial analysis completed in February 2015 showed that, at that time, the future revenues to be derived, and costs incurred to access those revenues, produce a viable project using the assumptions presented in this estimate. The costs to complete and commission the mine and plant to process for a 30 year period were considered.

Processing

The commercially proven and well understood process involves the combination of decomposed kainite with sylvite which results in an ambient temperature conversion to potassium sulphate. Excess brine will be treated in evaporation ponds to precipitate potassium bearing salts which will be recycled to the plant for recovery. Benchtop and pilot plant tests conducted at the Saskatchewan Research Council (SRC) prove the process design and process flow diagrams used for the PFS. The process design was validated by an appointed Technical Review Committee in February 2015.

The SOP product will be dried and sized to produce granular, standard and potentially soluble products which will be shipped for export.

Bench scale metallurgical testwork using samples that reasonably represent the mining schedule has been completed to determine chemical and mineral analysis of the samples, liberation and flotation characteristics of all potassium salts, decomposition rates and retention times, decomposition ratios, precipitate sizing and evaporation rates.

Product Pricing

A long term price of US$586 per tonne FOB at Anfile Bay was used for the Ore Reserve estimate.

Colluli Potash Project Summary

The Colluli Potash Project is situated in the Danakil region of Eritrea, approximately 350km south-east of the capital city, Asmara and 180km from the port of Massawa, which is Eritrea’s key import/export facility.

The project is a joint venture between the Eritrean National Mining Company (ENAMCO) and STB with each company having equal ownership of the joint venture company, the Colluli Mining Share Company (CMSC). CMSC is responsible for the development of the project.

The Colluli resource is located approximately 75km from the Red Sea coast making it one of the most accessible potash deposits globally. It is favourably positioned relative to key growth markets for potassium-bearing fertilisers, commonly known as potash, and is the shallowest known potassium bearing evaporite deposit in the world with mineralisation starting at 16m.

The resource is amenable to open cut mining methods, and comprises three potassium bearing salts; sylvinite, carnallitite and kainitite. These salts are suitable for the production of potassium sulphate (SOP) which is a high quality potash fertiliser carrying a price premium over the more common potassium chloride (MOP). The diverse range of potassium salts in the resource also allows the production of a diverse range

of potash types including potassium magnesium sulphate (SOP-M) and potassium chloride (MOP). This diversification capability is unique to the Danakil resource.

The development phases of Colluli, which form the basis of the PFS and Ore Reserve estimate, will focus on the production of (SOP) from the resource using a commercially proven process which utilises simple mineral processing units and utilises all of the potassium salt types within the Colluli Resource.

Competent Person

Mark Chesher is the Competent Person for the 2015 Colluli Ore Reserve estimate, and supervised preparation of the Ore Reserve estimate with assistance from specialists in each area of the study. Mr Chesher is a Fellow of the Australasian Institute of Mining and Metallurgy, a Chartered Professional, and is a full-time employee of AMC Consultants Pty Ltd. He has sufficient open pit mining activity experience relevant to the style of mineralisation and type of deposit under consideration to qualify as a Competent Person as defined in the JORC Code 2012. Mr Chesher consents to the inclusion of information relating to the Ore Reserve in the form and context in which it appears.

In undertaking the assignments referred to in this report, AMC Consultants Pty Ltd acted as an independent party, has no interest in the outcome of the Colluli Project and has no business relationship with South Boulder Mines Ltd other than undertaking those individual technical consulting assignments as engaged, and being paid according to standard per diem rates with reimbursement for out-of-pocket expenses. Therefore, AMC Consultants Pty Ltd and the Competent Person believe that there is no conflict of interest in undertaking the assignments which are the subject of this statement.

Forward-Looking Statements

This news release contains statements that are "forward-looking". Generally, the words "expect," “potential”, "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature, forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward looking statements, which are not guarantees of future performance. Statements in this news release regarding the Company's business or proposed business, which are not historical facts, are "forward looking" statements that involve risks and uncertainties, such as resource estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements.

Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

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COMPANY SECRETARY

About South Boulder Mines Ltd

South Boulder Mines is an ASX listed company and 50% owner of the Colluli Potash Project in Eritrea, East Africa. The company is currently developing the Colluli Project in partnership with the Eritrean National Mining Company (ENAMCO).

The project is located in the Danakil Depression region of Eritrea, and is ~75km from the Red Sea coast, making it one of the most accessible potash deposits globally. Mineralisation within the Colluli resource commences at just 16m, making it the world’s shallowest potash deposit. The resource is amendable to open pit mining, which allows higher overall resource recovery to be achieved, is generally safer than underground mining and is highly advantageous for modular growth.

The Colluli has a JORC 2012 compliant resource containing over 1 billion tonnes of potassium bearing salts suitable for the production of potash fertilisers. The resource is positively unique in its size, combination of salts, proximity to coast and shallow mineralisation. The combination of salts within the resource makes it suitable for high yield, low energy input production of potassium sulphate, which is also known as sulphate of potash or SOP. SOP is a specialty fertiliser that carries a substantial price premium relative to the more common potassium chloride, which is the most common potassium salt known as potash.

The company has completed a prefeasibility study for the production of potassium sulphate, otherwise known as SOP. SOP is a chloride free, specialty fertiliser which carries a substantial price premium relative to the more common potash type; potassium chloride. Economic resources for production of SOP are geologically scarce. The unique composition of the Colluli resource favours low energy input, high potassium yield conversion to SOP using commercially proven technology. One of the key advantages of the resource is that the salts are present in solid form (in contrast with production of SOP from brines) with which reduces infrastructure costs and substantially reduces the time required to achieve full production capacity.

The resource is favourably positioned to supply the world’s fastest growing markets.

The JORC 2012 Compliant Mineral Resource Estimate for the Colluli Potash Project now stands at 1.289 billion tonnes @ 11% K2O for 260Mt of contained SOP. Substantial project upside exists in higher production capacity and market development for other contained products such as potassium magnesium sulphate, potassium chloride, rocksalt and magnesium chloride.

Our vision is to bring the Colluli project into production using the principles of risk management, resource utilisation and modularity, using the starting module as a growth platform to develop the resource to its full potential.

Appendix A
JORC Code 2012 - Table 1

Estimation and Reporting of Ore Reserves

Criteria	Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	• Ore Reserve estimate based on the Mineral Resource reported by AMC in the report "Colluli Mineral Resource Estimate", 16 March 2015. Refer to South Boulder Mines Ltd ASX release 25 February 2015 for the updated Colluli Mineral Resource estimate, "Colluli Review Delivers Mineral Resource Estimate of 1.289Bt" (website: http://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=stb&timeframe=D&period=M3) • Colluli open pit Ore Reserve based on Measured and Indicated Mineral Resources of 1,255 Mt @ 11% K_2O, comprising: – Sylvinite rock unit: 250 Mt @ 13% K_2O – Carnallitite rock unit: 383 Mt @ 8% K_2O – Kainitite rock unit: 621 Mt @ 12% K_2O • Ore Reserve based on 3D resource block models "mdclok_a2.dm" for Area A and "mdclok_b2.dm" for Area B, developed in January 2015 from geostatistical assessment of predominantly diamond drillhole sample results. • Mineral Resource converted to Ore Reserve by developing diluted resource model and applying pit optimization and mine scheduling to determine economically viable blocks to recover and process. • The Mineral Resources inclusive of Mineral Resources modified to produce Ore Reserves that can be economically mined.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• The Competent Person for Ore Reserves completed a site inspection of the Colluli project in February 2015 and viewed the proposed mine, process and camp infrastructure, and also: – Assessed data collection methods and techniques – Inspected the proposed port site and ore haulage route – Visited communities nearest the project site.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. • The Code requires that a study to at least pre-feasibility study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	• Colluli studied to pre-feasibility study (PFS) standard. • Construction at Colluli is yet to commence. • The mine plan is technically achievable given the assumptions used as the basis for the project. • The project is economically viable when considering the expected revenues and costs (from 1 January 2018) to achieve those revenues. • Material Modifying Factors were considered.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	• Breakeven processing cut-off grade used for Ore Reserve estimation. • Cut-off grade calculated using: – Adopted long-term SOP price of US$586/t product. – Processing, administration and overhead cost of US$12.17/t processed. – Ore haulage and port cost of US$27.26/t product. – Average sustaining capital cost of US$1.73/t processed. – Royalty costs of 3.5% of revenue. – Process recovery of 84.7% for K^+ and $SO4^{2-}$ from sylvite, carnallite and kainite mineral species hosted within Sylvinite, Carnallitite and Kainitite rock units. – Costs for processing plant production rate of 850 ktpa of SOP.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimization or by preliminary or detailed design). • The choice, nature and appropriateness of	• Open pit mining method: – For potash and rock salt – 110 t class surface miners direct loading 90 t class rear dump trucks. Method commonly used in potash and phosphate open pit operations and is well understood. Similar continuous miner technology is used in underground potash and phosphate mines. – Clastic overburden and bischofitite – 190 t and 110 t class excavators and 90 t class rear dump trucks. Clastic overburden

	the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. • The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling. • The major assumptions made and Mineral Resource model used for pit and stope optimization (if appropriate). • The mining dilution factors used. • The mining recovery factors used. • Any minimum mining widths used. • The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. • The infrastructure requirements of the selected mining methods.	pushed down to excavators by 50 t track bulldozers. Method commonly used in open pit operations and well understood. • Choice of mining method to enable the selective extraction of the potash ore units, minimising mining dilution and ore loss, and eliminating the requirement for drill and blast. Excavators utilised for bulk waste movement. Staggered benches in the pit development to level stripping ratio over the mine-life, enhance project economics and provide consistent plant feed. • Optimum pit limits determined using Gemcom Whittle 4X computer software given the project assumptions. Optimization outcomes are insensitive to changes in input parameters until the price is reduced by approximately 30%. • Process plant feed targets maintained in the mine schedule using Minemax Scheduler strategic mine scheduling software and XPAC mine production scheduling software. • Staged pit designs developed using Datamine computer software. • Geotechnical design parameters applied in pit design supported by analyses of laboratory testing of drill samples: – Clastic overburden: Batter angle of 15°, berm width of 20m, and maximum batter height of 20m. – Carnallitite and Bischofitite: Batter angle of 20°, berm width of 8m, and maximum batter height of 25m. – All other potash units and rock salt: Batter angle of 70°, berm width of 8m, and maximum batter height of 20m. • Pit designs developed for two scenarios: – Detailed staged pit designs to provide inventory for the period of economic assessment. – Life of mine pit designs for Ore Reserve estimation purposes, based on the final pit limits from pit optimisation. Detailed design for Area B not completed as it is not expected to be mined for approximately 100 years. Instead an average overall pit slope angle of 19° was applied in Area B, based on the overall slope angle resulting from the Area A detailed design. • Mineral Resource model assumptions detailed in Section 3, Table 1. Refer to South Boulder Mines Ltd ASX release 25 February 2015 for the updated Colluli Mineral Resource estimate, "Colluli Review Delivers Mineral Resource Estimate of 1.289Bt" (website: http://www.asx.com.au/asx/statistics/announcements.do?by=asxCode&asxCode=stb&timeframe=D&period=M3). • Production schedule based on 850 ktpa SOP production, to give a mine life in excess of 200 years. Life of mine average plant throughput rate is 5.4 Mtpa and the life of mine average mining rate is 26.9 Mtpa. • Colluli area topography is characterized by a flat salt plain in the area of mineralisation, bordered by an anhydrite ridge approximately 20m above the salt plain. All pits, dumps and roads designed to PFS standard to ensure designs practically achievable. • 0.3 m "skin" of dilution included at each ore to waste contact. Dilutant acquires the grade of the underlying resource model block. Result is inclusion of approximately 9% dilutant at a grade of 3.9% K_2O, and ore loss of 1% at a grade of 7.5% K_2O, for a net increase of 8% in ore tonnes and reduction of 2.5% in contained K_2O. • Minimum mining width of 50m was applied in production scheduling. • Inferred Mineral Resources were considered as waste for optimization and financial evaluations. • Infrastructure included in the mine plan includes dewatering facilities, heavy vehicle workshop, administration facilities and supporting communication and computing facilities.
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralization. • Whether the metallurgical process is well-tested technology or novel in nature. • The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery	• The Colluli process is commercially sensitive. Details are contained in the PFS documents and have been reviewed by independent experts to the satisfaction of the Competent Person. • The process uses the combination of salts in the orebody to produce potassium sulphate (SOP). • Process brine will be treated in evaporation ponds to precipitate potassium bearing salts which will be recycled to the plant for recovery. • The SOP product will be dried and sized to produce granular, standard, and potentially soluble, SOP products which will be shipped for export. • The overall process flow sheet includes eight main areas:

	factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. • For minerals that are defined by a specification, has the Ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?	– Ore receival, secondary crushing, ore storage and reclaim. – Ore pulping and deslime. – Sylvinite and Carnallite processing. – Kainite processing. – Process and waste storage ponds with recycle of selected streams. – SOP production. – SOP drying, sizing and compaction for SOP products. – Product load-out, haulage and port facilities. • The proposed metallurgical process is well understood and appropriate for the deposit. The processing method is the most commonly used, low cost process for the production of potassium sulphate via the addition of potassium chloride (sylvite) with kainite from the kainitite. Kainitite represents approximately 50% of the Colluli resource with the remaining salts comprising sylvinite and carnallitite which are commonly used for the production of potassium chloride. Using these well understood processing principles, the ore containing sylvite and carnallite can be decomposed, and then recombined with decomposed kainite. • Bench scale metallurgical test work was completed to determine: – Chemical and mineral analysis of the samples – Sylvinite characteristics (clay content, liberation, flotation ability). – Kainite characteristics (clay content, liberation, flotation ability). – Decomposition rates and retention times. – Feed to brine ratios. – Decomposition ratios. – Precipitate sizing. – Pond evaporation tests. – Alternate flotation methods. • Domaining considered in metallurgical testwork, which was carried out separately for sylvinite, carnalitite, kainitite rock types where appropriate. Mineralogy also considered. • The metallurgical test work samples were reasonably representative of mining schedules and the PFS period of economic assessment. • Overall metallurgical recovery factor of 84.7% is estimated for K^+ and $SO4^{2-}$ from sylvite, carnallite and kainite mineral species hosted within Sylvinite, Carnallitite and Kainitite rock units. • Process flowsheet and metallurgical assumptions based on testwork of diamond drilling samples and confirmed by pilot plant testwork to successfully demonstrate production of SOP from Colluli ore. • Pilot plant tests produced a SOP of 98% purity compared to typical industry product purity of 94%. Chloride levels were less than 0.1%, lower than existing producers which show chloride levels at approximately 0.5%. Results repeatable with a diverse range of feed material..
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterization and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	• Social and Environment Impact Assessment (SEIA) documentation is being prepared by the consulting company MBS Environmental (MBS) and STB. • The status of the SEIA is: – Project classified under the (Eritrean) National Environmental Assessment Procedures and Guidelines as a “Category A’ development meaning it requires a full SEIA. – Scoping and Terms of Reference documents have been submitted for the SEIA. They have been updated to reflect a doubling of the plant capacity to 850 ktpa around year 5 of the project. Development of the SEIA and Environmental Management Plan (SEMP) is partially complete. The majority of environmental and socioeconomic baseline studies have been completed and have been reviewed by the Department of Environment (DOE). Remaining studies are expected to be submitted in Q2 2015. There are believed to be no environmental related issues that do not have a reasonable likelihood of being resolved. – Once completed, the SEIA and draft SEMP will be submitted and assessed by the DOE prior to a decision on project approval being made. Monitoring and evaluation of the project will be undertaken for operations. • Eritrea is signatory to a number of international agreements and treaties which have been taken into consideration in the planning and development of the project.

		• Mine waste material characterisation has been completed. All mine waste demonstrated low potential for acid mine drainage. Water leachate analysis showed very low levels of environmentally significant metals and metalloids. • Physical and chemical characterisation of process waste has been completed. Process wastes are not anticipated to have any acid mine drainage potential or to generate environmentally significant levels of leachable trace metals and metalloids. • None of the infrastructure for the project will be located on agricultural or residential land.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	• Colluli Project is located in the Danakil region of Eritrea approximately 350 km by road south-east of the capital city, Asmara, and 180 km from the port of Massawa. • Colluli is a greenfields project comprising the mine site, product export terminal at Anfile Bay, and a product haulage road linking the export terminal to the mine site. • Existing access, infrastructure and services include: – Air travel to Eritrea via an international airport in Asmara. – Shipping via the Red Sea port at Massawa. – Exploration camp at Colluli. • Colluli is characterised by a very dry and hot climate, however storm intensity can be high. • All infrastructure and equipment will be designed for climate conditions. • Colluli is not connected to the national power grid. Power at the mine site will be from a heavy fuel oil onsite power plant providing an 11 kV supply which will be stepped down to 415V. Power at the port will be from a diesel onsite power plant providing a 415V supply. Distribution will be via both underground and overhead power lines. • Product export terminal will be constructed at Anfile Bay. Construction material will be sourced from local quarries. • Marine infrastructure for the load-out facility will comprise a causeway connecting onshore activities to the loading berth. The berth will be constructed from precast concrete counterfort units. • Product export terminal logistics solution: – Terminal stacking area. – Barge loading via mobile harbour crane. – Transhipping containers to feeder vessels at an adjacent offshore transhipment site. – Feeder vessels sail to hub port, for further transhipment of containers to liner vessels for final delivery. • Colluli village will be located at the mine site and comprise motel and hostel style accommodation for all personnel. The village will contain mess facilities, laundry, sporting facilities, recreation rooms, and camp administration and maintenance buildings. • Existing Colluli access road between Marsa Fatuma and the Colluli site will be upgraded. • Several routes for the product haulage road between the mine site and Anfile Bay have been identified, but further work is required to finalise the preferred option. • Water for all areas of operations will be sourced at Anfile Bay and pumped via dedicated pipelines to Colluli. Seawater will be pumped directly. Potable water will be supplied by a desalination plant at Anfile Bay. Some water will be retained at Anfile Bay for use at the port. A secondary water source is local groundwater from open pits. • The desalination process at Anfile Bay will employ reverse osmosis. Desalinated water will enter the process directly whilst potable water will require chlorination. • Waste management. Sewage from the accommodation camp and plant ablutions will be treated in a package sewage treatment plant. Waste oils will be incinerated or used as fuel in the product dryer. Wherever possible, solid wastes will be recycled. • The process requires evaporation ponds and tailings storage facilities located on the saltpan. • Surface water and drainage. Mine area is located between the Sariga and Galli-Colluli rivers. Seasonal discharges from these river systems to the saltpan will be mitigated using diversion bunds designed to divert surface water away from critical mine areas whilst minimising

		downstream impacts. • Site buildings will be fit-for-purpose and comprise main administration building, clinic and emergency response building, plant workshop, warehouse, reagent store, plant ablutions and crib rooms, laboratory and gatehouse. • Fuel for mining equipment and power generation will be stored in bladder containers providing two weeks supply. • Communications will comprise a site radio system, process controls, and a VSAT satellite link for internet connection. • Local staff will be employed wherever possible, in conjunction with African and international expatriates. Camp facilities will be provided for all staff.
Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study. • The methodology used to estimate operating costs. • Allowances made for the content of deleterious elements. • The source of exchange rates used in the study. • Derivation of transportation charges. • The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. • The allowances made for royalties payable, both Government and private.	• Capital costs estimated from first principles by specialist consultants (Lycopodium, PRDW, AMC). The estimates assumed: – New equipment prices for all equipment. – Factored estimates using known costs from previous projects. – Individual assessment of the work content. • Preproduction capital is estimated at US$442M for Phase I and includes mine development capital. An additional US$282M will be spent in Years 4 and 5 for Phase II expansion. • Capital costs relate to a project configuration comprising two processing plant modules each producing 425 ktpa SOP. Capital costs were estimated using scaling of the detailed cost estimate for the base case 350 ktpa module, using industry accepted scaling rules. • Capital and operating costs presented in US dollars as at the first quarter of 2015 to an accuracy of +/- 25% • Processing, ore haulage and port operating costs developed from first principles analysis of fixed costs (labour, G&A, infrastructure) and variable costs associated with power and consumables. • Mine operating costs developed from first principles to consider the equipment productivity expected for each bench in the design and the unit costs to be applied to the equipment. • Average unit operating costs (Includes mine gate costs, logistics and royalties) for the period of economic assessment are US$189 per tonne of SOP produced. • Exchange rate assumptions provided by STB and based on recent STB analysis and available market consensus data from the financial sector where available. Exchange rate assumptions: – AUD1.18 to USD1.00 – ERN15.00 to USD1.00 – EUR0.80 to USD1.00 – ZAR11.00 to USD1.00 • Operating costs were scaled from 350 ktpa SOP product cost estimates to reflect increased production of 425 ktpa SOP product within PFS level accuracy. Fixed and variable costs were applied accordingly. From 425 ktpa to 850 ktpa, variable costs were doubled. • Transport costs were estimated from first principles. SOP is assumed to be sold free on board (FOB) and no allowance for post-shiploading costs. • Treatment costs estimated from first principles. Final product assumed to be 99.5% pure and requires no further refining. • Royalty of 3.5% of revenue, payable to the Eritrean government, included in the financial evaluation.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	• Head grade estimated using geostatistical techniques in 3D modelling of diamond drilling results. • Product will be in standard form (not granular or soluble). • Long term SOP price estimate of US$586/t SOP, FOB at Anfile Bay, used in Ore Reserve estimation. Price in the range of SOP prices observed in the past several years, adjusted for the port of export. • Financial modelling of a shorter period of 30 years was considered when determining project NPV. Price projections until 2025 were applied, after which the long price estimate was applied. The resulting average price was US$588.50/t SOP, FOB Anfile Bay. • Allowance of US$27/t SOP sold for product haulage and port costs.
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption	• SOP is a regularly traded commodity and is sold predominantly by way of supply contracts in a closed market.

	trends and factors likely to affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product. • Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	• The status of any supply contracts involving STB is commercially sensitive and is therefore not disclosed. • STB completed customer and competitive analysis, which is commercially sensitive and is therefore not disclosed. • Colluli is geographically well located to supply Asia, India and the Middle East, and can also supply Europe and America. • Prices were forecast by STB based on market intelligence, from the combination of the industry cost curve, sulphuric acid price forecasts and potassium chloride price forecasts. These raw materials combine to form the inputs to SOP production via the Mannheim process. By-product credits for hydrochloric acid produced were applied to give a mine gate production cost for secondary production. A logistics cost was then added (based on European operations) to give a FOB price. To calculate the short term pricing versus long term, STB assumed that the hydrochloric acid credit was not available and the Mannheim process input costs without by-product credits set the price. Review shows assumptions to be reasonable in light of historical pricing. • Supply and demand forecasts were based on market intelligence and analysis completed by STB. STB forecasts an ongoing demand for SOP attributed to increasing world population, declining arable land, disposable income and dietary changes, and under-application of potassium fertilisers in developing countries. SOP supply has been contracting due to operational issues within existing suppliers and failed capacity expansions, which has resulted in an SOP price increase over that period. There is a limited number of projects and resources of significance that are likely to be developed. STB assumed a balanced SOP market in its analysis. • The customer specification, testing and acceptance requirements prior to a supply contract will be supported by the pilot plant product.
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	• Economic assessment based on an initial economic review period of 30 years, with production assumed to commence in 2018. The mine life far exceeds the period of economic assessment. • Discount rate of 10% “real” used for long term analysis. • Pit shell optimizations generated using undiscounted cash flows. • All evaluations conducted in “real” currency with a reference date of 31 December 2014. • Provision was made for corporate tax at 38% of operating profit. • No Value Added Tax (VAT) or Goods and Services Tax (GST) payable. • Initial 30 year financial estimates are NPV of US$846M; IRR of 24.7%: Payback period of 5.75 years. • In the event of Phase II not being built the Phase I only financial estimates are NPV of US$462M; IRR of 22.3%; Payback period of 4.25 years. • NPV is mainly sensitive to SOP price. Reducing SOP price by 10% reduces the Phase II NPV from US$846M to US$653M (-23%), whilst reducing the price by 20% reduces the project NPV to US$459M (-46%). Increasing the SOP price by 10% increases the Phase II NPV by 23% to US$1,041M. NPV is less sensitive to changes in operating costs. A 20% increase in Phase II operating costs reduces the project NPV to US$722M (-15%). • NPV reduces by 10% for Phase I to US$764M when development capital is increased by 20%.
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• Colluli is a joint venture between the Eritrean National Mining Company and STB, via the equally owned Colluli Mining Share Company (CMSC). • Socio-economic and cultural heritage baseline reports have been undertaken and reviewed by the DOE. • STB has implemented a Stakeholder Engagement Program and is actively engaging with a wide range of project stakeholders. • The project will not directly affect any communities or residences and no resettlement programs will be required. • Social impacts from implementation of the project are currently being assessed and will be documented as part of the SEIA process. • There are believed to be no social related issues that do not have a reasonable likelihood of being resolved.
Other	• To the extent relevant, the impact of the following on the project and/or on the	• Seasonal discharges from the Sariga and Galli-Colluli river systems to the saltpan will need to be mitigated. Appropriate measures are

	estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements. • The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	designed to protect infrastructure at Colluli and along the ore haulage route. • Future studies are planned to investigate the potential for liquefaction in the clastic overburden. This will enable management strategies to be developed if required. • Weather conditions at site are hot and dry, with low rainfall and a high salt environment. Equipment and infrastructure was specified that is fit-for-purpose, and appropriate operating procedures will be developed and implemented for construction and operations. • No forward sales contracts or off-take agreements are currently in place for the sale of Colluli SOP. • CMSC holds exploration rights to the Colluli concession until 20 July 2015. The concession encompasses the proposed sites for the open pits, waste dumps, process plant, and associated infrastructure. • A mining license application will be made on completion of the DFS and SEIA. An extension to the existing exploration license will be sought in the interim. The mining licence will be valid for a maximum period of 20 years or the life of the deposit, whichever is shorter. The license may be renewed for a maximum period of ten years on each renewal; subject to the licensee demonstrating the continued economic viability of mining the deposit and that the licensee has fulfilled the obligations specified in the license and is not in any breach of any provision of Proclamation No. 68/1995. • Granting of land for the Product Haul Road is implied and expected to form part of the mining licence application. • Land was granted to the Colluli Potash Project for the development of a product export terminal on 6 June 2014 subject to economic viability and social and environmental conditions being met.
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories. • Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• Measured Mineral Resources convert to Proved Ore Reserves. • Indicated Mineral Resources convert to Probable Ore Reserves. • Inferred Mineral Resource regarded as waste for optimization and evaluation purposes. • The Colluli Ore Reserve estimate appropriately reflects the Competent Person's views. • No Probable Ore Reserve was derived from Measured Mineral Resources.
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	• The process design and design criteria, metallurgical testwork, plant configuration and process equipment list presented in the PFS were reviewed by a technical review committee, comprising sulphate brine, solar pond and process plant design experts, and concluded: – Colluli SOP process comprises well proven steps. Production path via intermediate steps is known and commercially proven. – Testwork to date confirms validity of process flow diagrams. – No major design flaws. • The financial model developed by STB, and used for valuation purposes, was independently reviewed and verified cashflows were modelled against the Colluli shareholders agreement. • The Competent Person is not aware of any other audits or reviews of the 2015 Colluli PFS.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and	• In the Competent Person's view the Colluli PFS achieves the required level of confidence in the modifying factors to justify estimation of an Ore Reserve. The PFS determined a mine plan and production schedule that is technically achievable and economically viable. • PFS capital cost estimates are generally based on quoted budget prices and rates, material take-offs from drawings, and allowances. Construction quantities and contracted purchase costs will be developed in the DFS and will improve the confidence in the financial outcomes. • PFS operating cost estimates have a similar level of accuracy, which will be improved during the DFS as greater confidence is achieved for the process design and consumable costs are quoted. • Additional testwork and DFS design will enable refinement of the process and mining assumptions to provide a more accurate assessment of the financial outcomes of the project. Improving the confidence in these modifying factors will improve the outcomes of the DFS but are unlikely to materially change the Ore Reserve estimate.

	economic evaluation. Documentation should include assumptions made and the procedures used. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • It is recognized that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• The Ore Reserve classification is insensitive to changes in the Modifying Factors and no conversion of Measured Mineral Resource to Probable Ore reserve was required. • Review by independent experts indicates that there are no major flaws in the process design, plant configuration and process recovery. So modifying factors are unlikely to change sufficiently with further study to materially change the Ore Reserve. • Detailed design and analysis was based on a 30 year economic period of review. Results of the detailed analysis were extrapolated to cover the Ore Reserve as sufficient sustaining capital was allowed in the PFS cost estimate to enable regeneration of critical items of the plant and infrastructure in each 30 year period.