

## **QUARTERLY OPERATIONS REPORT - THREE MONTHS ENDING 31 DECEMBER 2011**

# **HIGHLIGHTS**

A detailed engineering scoping study (ESS) for the Colluli Potash Deposit was completed generating highly favourable technical and financial results;

Pre-production capital (Including 15% contingency)	USD 0.74 bn
Pre-tax NPV <sub>12%</sub> (12% Discount rate)	USD 1.33 bn
Internal rate of return (IRR)	40.60%
Project revenue	USD 6.03 bn
MOP production rate	1Mt p.a.
Mining method	Open pit
Study mine life	17 years
Current resource utilisation	~ 16%

- The results firmly confirm Colluli as a "Tier 1" global potash asset with enormous upside potential and a definitive feasibility study (DFS) is well underway for completion in 2013;
- Assays and resource extension drilling continue to define shallow potash outside the existing resource including new hole Col-049 (not previously released) which intersected a total thickness 16.35m of potash from 91.22m including 9.51m of Sylvinite (Figure 4 & Table 4). An updated JORC Compliant Mineral Resource Estimate is planned for the March quarter;
- Highly experienced finance and corporate executive Flavio Garofalo joins South Boulder as Chief Financial Officer to expedite The Company transition to potash producer;
- An initial JORC Compliant Mineral Resource Estimate has been compiled for the Rosie Ni-Cu-PGE sulphide deposit comprising 1,744,000t @ 1.7% Ni (29,800 Ni t), 0.4% Cu and 1.9g/t Pt +Pd (>1.0% Ni cut-off). A further phase of exploration drilling at the Duketon Nickel JV is scheduled to commence in February. Mineralisation remains open along strike and at depth;
- Organisation for a series of strategic investor visits to the Colluli Project throughout the March and June quarters is well advanced to assist assessing potential financial, off-take and development partners;
- South Boulder is well funded to progress the Colluli DFS and is in the process of finalising a fully underwritten 1 for 5 Entitlement Issue to raise ~ \$10.7m. This will result in a strong cash position of ~\$21 million in early February 2012, an additional \$2.5 million in equities with a further \$4.2 million expected from option conversions.

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## **POTASH PROJECT**

# **The Colluli Potash Project**

During the period a detailed ESS was completed and it confirmed the technical and financial viability of the Colluli Potash Project. Colluli is a substantial "Tier 1" project that has enormous upside potential with the inclusion of staged expansion and additional SOP production plans (Table 1). The ESS technical and discounted cash-flow model (DCF), (ASX releases dated 26<sup>th</sup> October and 23<sup>rd</sup> November 2011) provided a robust platform for South Boulder to rapidly proceed through DFS, approvals and construction of the world's first open cut potash mine.

An initial Stage 1 mine life has been extended to 17 years, whereby 1 million tonnes p.a. of standard MOP will be produced from an open pit mine and processing facility located at Colluli. The overall production strategy is to initially produce standard MOP from Sylvinite mineralisation and to progressively transition the project to include the production of Granular MOP, Standard and Granular SOP and K-Mg sulphates from Carnallite, Kainite and Kieserite mineralisation.

The ESS DCF model only includes the mining and processing of Sylvinite which utilises only ~16% of the current JORC Compliant Mineral Resource Estimate (Table 3). The capital cost, optimum rates of production and timing of staged expansions will be investigated in detail as part of the DFS. It is expected that at the completion of the DFS and updated JORC Compliant Resource Estimates, life of mine project economics will be substantially improved.

The pre-production capital expense of USD 0.74 billion for 1Mt p.a. MOP production presents a highly attractive investment case, and compares very favourably with other proposed or planned potash developments in the industry. The average pre-production capital expense for Greenfield MOP projects is greater than USD 1.0 billion per 1 million tonnes of production capacity. A breakdown of the key pre-production capital expenses including a 15% contingency are shown in Table 2.

Pre-production capital (including 15% contingency)	USD 0.74 bn
Pre-tax NPV <sub>12%</sub> (12% Discount rate)	USD 1.33 bn
Internal rate of return (IRR)	40.60%
Project revenue	USD 6.03 bn
MOP production rate	1Mt p.a.
Mining method	Open pit
Study mine life	17 years
Current resource utilisation	~ 16%

Table 1: Colluli Project discounted cash flow (DCF) model summary.

The NPV of USD 1.33 billion (calculated at a 12% discount rate) and IRR of 40.6% reflect earnings before interest, tax, depreciation, and amortisation (EBITDA basis). A MOP price of USD500/tonne has been used in 2016 with the price escalating at 2% per annum in subsequent years.

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Capital Item	USD
Direct Capex	
- mine & plant	352M
- transport & port	102M
Indirect Capex	
- mine & plant	161M
- transport & port	25M
Contingency (15%)	96M
Total	736M

Table 2: Colluli Project key pre-production capital expense areas.

	Tonnes (Mt)	Grade (% KCI)	Mt (Potash)
Total Measured	133.70	17.55	23.47
Total Indicated	343.33	17.38	59.68
Total Inferred	87.37	24.96	21.81
Total Resource	564.40	18.60	104.96

Table 3: Colluli Project JORC Compliant Mineral Resource Estimate.

A number of key areas for assessment in the DFS have been identified to have the potential to substantially reduce pre-production capital and operating costs estimates. Some of these areas also have the potential to increase the scale of initial Stage 1 production rates, future expansions and future timing of SOP and K-Mg sulphate production. These are;

- Further resource expansion and optimised utilisation of the current resource. (Current JORC Compliant Exploration Target is 1.25 1.75 billion tonnes @ 18-20% KCl ##);
- ➤ Metallurgical processing optimisation to increase Sylvite recovery above ~80%;
- Determination of more accurate characteristics of the overburden material;
- Optimisation of the site water balance model;
- Optimisation of the Company strategic project financing plan;
- Determination of capital costs and operating costs for SOP and K-Mg sulphate production;
- Optimising the mining and processing plan to include SOP and K-Mg sulphate production schedules;
- > Development of the SOP and K-Mg sulphate market and marketing plan.

DFS activity is continuing at a rapid pace to complete all requirements necessary to gain approvals to mine at Colluli and to commence production in 2016 or sooner. The Social Environmental Impact Assessment (SEIA) has commenced and South Boulder is continuing to work closely with the Eritrean Government in order to streamline the entire mine approvals process (Figure 1).

## ##JORC Compliance Statement

The potential quality and grade of the total current exploration target of 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 other than the current Mineral Resource Estimate.

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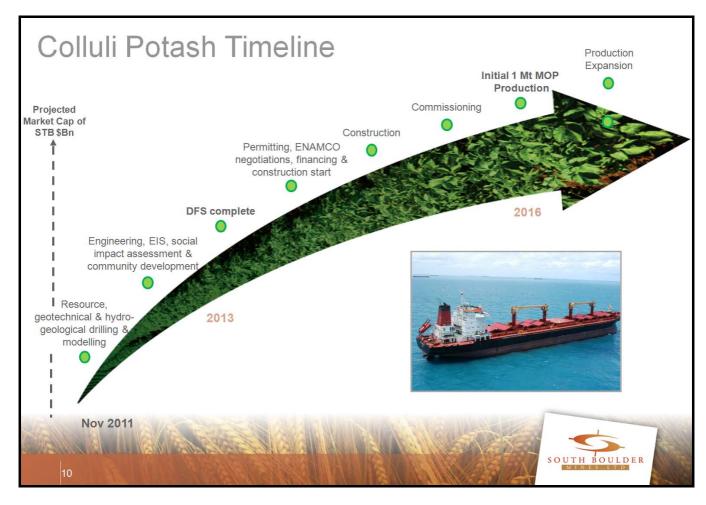


Figure 1: Colluli Project timeline to potash production.

As part of the DFS a complete Social Environment Impact Assessment (SEIA) plan has been submitted to the Eritrean Government for consideration. The plan was undertaken by Knight Piesold Consulting in conjunction with South Boulder personnel and is a comprehensive plan in accordance with the local and international guidelines. Approval of the plan is anticipated in the March quarter and a number of data collection activities are well underway. Other key related activities underway include;

- A close spaced (50 200m centres) PQ diamond drilling program has been designed and is currently in the final stages of approval. Up to 70 holes will be completed in order to collect sufficient sample for definitive metallurgical testing and to assess the short range variability and localised geometry of the deposit. It is planned that the program will be undertaken over potential mining areas that correspond to the first few years of production from Area A;
- South Boulder Mines has commenced a global tender process for DFS engineering design for a froth flotation processing plant, road transport, product drying and storage facility, port facilities and accommodation villages (Figure 2). It is planned to award the tender in February 2012;
- A Baseline Hydrology Program was initiated in November 2011 and included the installation of 13 hydrogeological monitoring bores at Area A (Figure 4) as part of DFS ground water and geotechnical assessment with respect to open cut mining studies.

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In regard to the mineral resource expansion program, potash assays from a further six resource extension HQ diamond holes were returned during the period from holes completed in the 2011 drill program (Figure 4 and Table 4). In addition potash has been intersected in three new holes (not previously released) drilled as part of the current drilling program of 22 holes for ~ 2,000m (Figure 4). An updated JORC Compliant Mineral Resource Estimate is planned for completion in the March quarter.

Drilling for resource extension, metallurgical, hydrogeological and geotechnical requirements is expected to be ongoing over the majority of the next 14 months. A typical geological cross-section is shown in Figure 2.

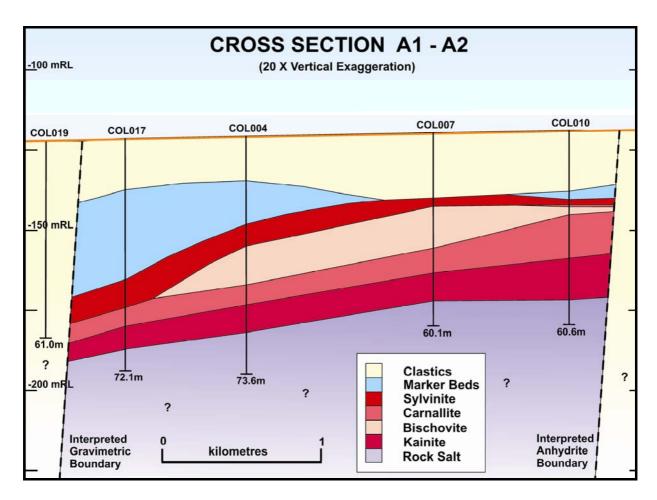


Figure 2: Colluli Project Area A Potash Deposit typical geological cross section show with a 20 x vertical exaggeration (Section line is shown on Figure 4).

# THE ERITREAN MINING INDUSTRY

During the period The Eritrean Government continued to direct very strong support for the rapid advancement of an economically and environmentally sustainable potash development at Colluli in partnership with South Boulder.

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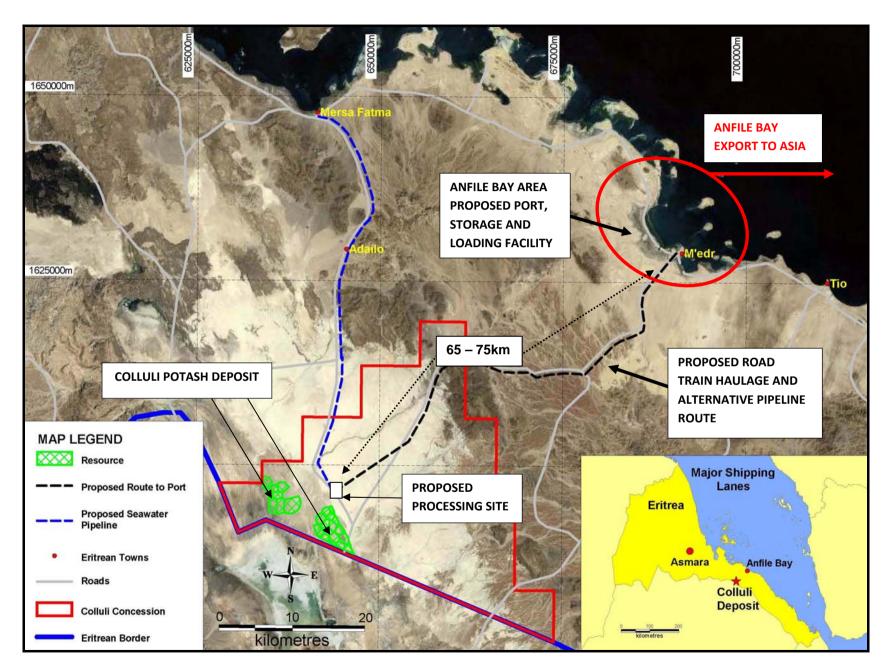


Figure 3: Colluli Project Site Plan.

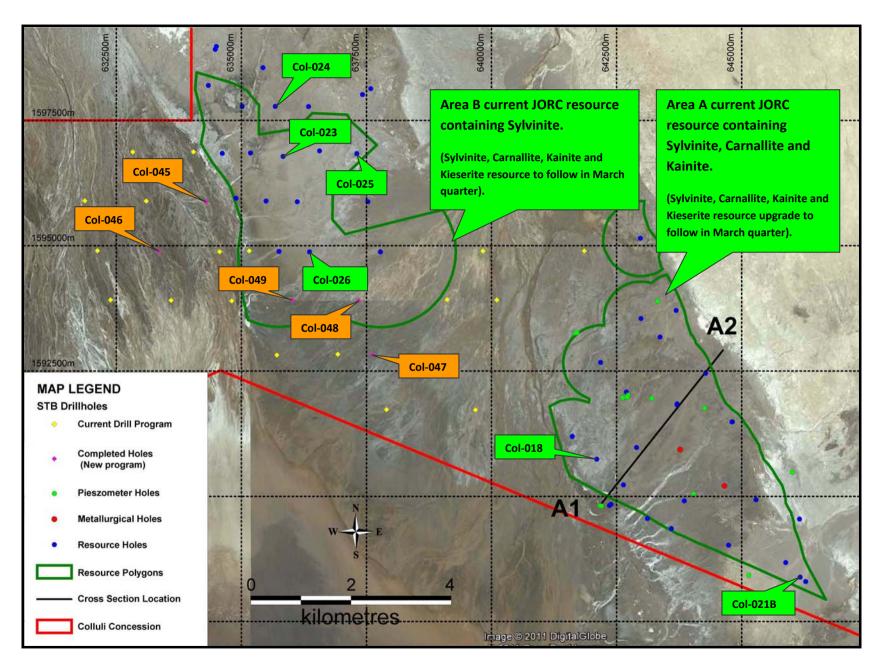


Figure 4: Colluli Project JORC Compliant Resource plan showing recent and currently approved drilling.

Hole No.	East (m)	North (m)	RL (m)	Azi. (degr.)	Dip (degr.)	E.O.H.	From	То	Interval (m)	KCI (%)	Comment	
Col-018	642104	1590740	-116	000	-90	55.60	49.74	51.88	2.14	23.26	Area A – Kainitite (Resource extension hole)	
Col-021B	646170	1588388	-82	000	-90	117.10	90.36	99.92	9.56	15.29	Area A – Carnallite (Resource extension hole)	
							99.92	113.72	13.80	14.69	Area A – Kainitite (Resource extension hole)	
PQ-001	644658	1590208	-118	000	-90	85.60		Assays	awaited		Area A – Sylvinite, carnallite and kainitite; total thickness ~20.76m from ~31.57m (Resource category upgrade hole)	
PQ-002	643772	1590934	-119	000	-90	147.00		Assays	awaited		Area A – Sylvinite, carnallite and kainitite; total thickness ~20.67m from ~35.45m (Resource category upgrade hole)	
Col-023	635833	1596782	-122	000	-90	52.60	33.63	35.67	2.04	27.63	Area B - Sylvinite (Within resource, interval previously released)	
							40.60	41.43	0.83	13.37	Area B – Carnallite (Resource extension hole)	
							41.43	47.85	6.42	23.03	Area B – Kainitite (Resource extension hole)	
Col-024	635677	1597779	-121	000	-90	45.00	24.00	29.10	5.10	14.80	Area B - Kainitite	
							29.10	31.51	2.41	11.44	Area B – Carnallite, kieserite dominated (Resource extension hole)	
							31.51	39.63	8.12	20.91	Area B – Kainitite (Resource extension hole)	
Col-025	636562	1596890	-119	000	-90	54.00	36.09	38.43	2.34	19.54	Area B - Sylvinite (Resource extension hole)	
							38.43	49.04	10.61	19.94	Area B - Kainitite and kieserite (Resource extension hole)	
Col-026	636356	1594877	-122	000	-90	102.00	83.10	86.06	2.96	29.85	Area B - Sylvinite (Within resource, interval previously released)	
							86.06	87.00	0.94	14.87	Area B – Carnallite, kieserite dominated (Resource extension hole)	
							90.00	90.86	0.86	11.15	Area B – Carnallite, kieserite dominated (Resource extension hole)	
							90.86	97.62	6.76	23.82	Area B – Kainitite (Resource extension hole)	
Col-027	636116	1595879	-122	000	-90	72.00	50.28	52.00	1.72	39.69	Area B – Sylvinite (Within resource, interval previously released) Assays awaited carnallite and kainitite zones (Resource extension hole)	
Col-028	637528	1595879	-119	000	-90	63.00	42.30	44.07	1.77	13.60	Area B – Polyhalite (Resource extension hole)	
							48.36	56.59	8.23	21.48	Area B – Kainitite (Resource extension hole)	
					Inclu	udes	49.25	56.06	6.81	23.16	Area B – Kainitite (Resource extension hole)	
Col-029	637780	1594876	-120	000	-90	93.00	74.58	75.74	1.16	29.44	Area B – Sylvinite (Within resource, interval previously released)	
							75.74	82.45	4.93	9.71	Area B – Carnallite, kieserite dominated (Resource extension hole)	
							82.45	89.76	7.31	21.07	Area B – Kainitite (Resource extension hole)	
Col-030	635493	1595891	-122	000	-90	75.00	53.94	58.30	4.36	21.42	Area B – Sylvinite and sulphate (Resource extension hole)	
					Inclu	ıdes	54.53	54.53 57.25 2.72 26.69 Area B – Sylvinite and sulpha		26.69	Area B – Sylvinite and sulphate (Resource extension hole)	
							59.88	63.55	3.67	9.65	Area B – Carnallite, kieserite dominated (Resource extension hole)	

Hole No.	East (m)	North (m)	RL (m)	Azi. (degr.)	Dip (degr.)	E.O.H.	From	То	Interval (m)	KCI (%)	Comment
Col-031	635211	1596851	-121	000	-90	51.00	32.92 37.40 4.48 24.22			Area B – Sylvinite and sulphate (Resource extension hole)	
					Incl	ıdes	33.58	35.00	1.42	37.72	Area B – Sylvinite and sulphate (Resource extension hole)
							37.40	39.61	2.21	13.49	Area B – Carnallite, kieserite dominated (Resource extension hole)
							39.61	45.60	5.99	23.86	Area B – Kainitite (Resource extension hole)
Col-032	635750	1594886	-122	000	-90	102.00	82.00	87.00	5.00	22.81	Area B – Sylvinite and sulphate (Resource extension hole)
					Incl	ıdes	82.00	83.69	1.69	30.10	(Interval previously released)
							90.98	99.00	8.02	21.21	Area B – Kainitite (Resource extension hole)
					Incl	udes	91.75	98.17	6.42	24.03	Area B – Kainitite (Resource extension hole)
Col-033	635016	1597777	-120	000	-90	30.00	19.35	20.82	1.47	14.66	Area B – Sylvinite (Within resource, interval previously released)
							21.60	22.79	1.19	10.79	Area B – Kainitite (Resource extension hole)
Col-034	635432	1598553	-119	000	-90	36.00	Assays awaited			Area B - Carnallite, kainitite; total thickness ~8.99m from ~22.14m (Resource extension hole)	
Col-035	636343	1597777	-119	000	-90	42.00	Assays awaited			Area B - Carnallite, kainitite; total thickness ~12.91m from ~25.70m (Resource extension hole)	
Col-036	637309	1596837	-118	000	-90	114.00	Assays awaited			Area B - Sylvinite, carnallite and kainitite; total thickness ~10.87m from ~32.60m (Resource extension hole)	
Col-037	634893	1595946	-122	000	-90	83.30	65.59	71.17	5.58	31.47	Area B – Sylvinite (Within resource, interval previously released) Assays awaited carnallite/kieserite and kainitite zones (Resource extension hole)
Col-038	637586	1598135	-117	000	-90	43.00	-	-	-	-	Area B - No samples taken, hole to be deepened
Col-038B	637422	1598015	-117	000	-90	78.00	-	-	-	-	Area B - No samples taken, hole to be deepened
Col-039	634618	1596841	-122	000	-90	57.00		Assays	awaited		Area B - Sylvinite, kainitite; total thickness ~9.87m from ~42.70m (Resource extension hole)
Col-040	634500	1598976	-119	000	-90	78.00	-	-	-	-	Area B - No samples taken, hole to be deepened
Col-040B	634476	1598917	-119	000	-90	27.00		Assays awaited			Area B - Kainitite; total thickness ~8.07m from ~16.51m (Resource extension hole)
Col-041	634341	1598197	-120	000	-90	33.00	Assays awaited			Area B - Sylvinite, kainitite; total thickness ~8.45m from ~18.86m (Resource extension hole)	
Col-045	634300	1595879	-122	000	-90	62.50	Hole to be deepened			Area B – No samples taken	
Col-046	633350	1594894	-123	000	-90	60.00	I	Hole to be	e deepened	l	Area B – No samples taken

Hole No.	East (m)	North (m)	RL (m)	Azi. (degr.)	Dip (degr.)	E.O.H.	From	То
Col-047	637622	1592828	-124	000	-90	138.00	Assays awaited	Area B - Sylvinite, sulphate, kainitite; total thickness of sylvinite and kainitite ~5.68m from ~122.32m, additional 6.07m of potential potash bearing sulphate rock from 125.21 – 131.28m. (Resource extension hole), samples to be dispatched
Col-048	637343	1593906	-123	000	-90	111.00	Assays awaited	Area B – Sulphate, carnallite, kainitite; total thickness ~6.97m from ~99.78m, additional 12.72m of potential potash bearing sulphate rock from 87.06 – 99.78m. (Resource extension hole), samples to be dispatched
Col-049	636022	1593912	-123	000	-90	114.00	Assays awaited	Area B – Sylvinite (9.51m), carnallite (0.42m), kainitite (6.42m); total thickness $^{\sim}16.35$ m from $^{\sim}91.22$ m (Resource extension hole), samples to be dispatched

Table 4: Area A and B new drilling results table. (New results for the current period are shown in yellow highlight and holes with assays pending are shown in bold).

### **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.

#### THE DUKETON PROJECT

The Duketon Project comprises ~1,500km<sup>2</sup> of the Achaean Duketon Greenstone Belt and is located ~ 80kms to 120kms north of Laverton in Western Australia. South Boulder owns 100% of the gold and base metal rights and Independence Group NL (Independence; ASX: IGO) is earning 70% of the nickel rights to selected tenure held by South Boulder (Figure 5) as part of the Duketon Nickel Joint Venture (DNJV).

The Duketon Project is highly prospective for gold, nickel sulphide and base metals. The Achaean Duketon Greenstone Belt is dominated by a broad, complex north-northwest trending fold structure known as the Erlistoun Syncline. The core of this syncline is occupied by the Ingi-jingi Felsic Volcanic Complex. The Ingi-jingi Felsic Volcanic Complex consists dominantly of rhyolitic and dacitic tuffs, and represents the youngest rocks in the belt.

The western limb of the Erlistoun Syncline is formed by a sequence of mafic and ultramafic volcanic and intrusive, epiclastic and chemical sediments, and minor felsics known as the Bandya Mafics. To the west the Bandya Mafics are bounded by the Hootanui Fault and the Granite Hills Batholith. The north-eastern limb of the Erlistoun Syncline is formed by a sequence of mafic volcanics informally known as the Riccaboni Mafics. These mafics underlie the Ingi-jingi Felsic Volcanic Complex, and are intruded to the north by the Mount Joanna batholith.

## THE DUKETON NICKEL JOINT VENTURE

Under the terms of the agreement Independence will farm-in to earn 70% of the nickel metal rights on tenements held by South Boulder within the Duketon Project by delivery of a Bankable Feasibility Study within 5 years from the grant of the relevant tenement.

The DNJV covers some of the ultramafic rich stratigraphy in the Duketon Greenstone Belt which is considered highly prospective for Ni-Cu-PGE (Platinum group elements) disseminated and massive sulphide mineralisation. Two key prospects have been defined to date: Rosie and C2. Other than these prospects much of the highly prospective ultramafic units have yet to be effectively tested for nickel-copper-PGE sulphide mineralisation at depth.

Additional nickel sulphide mineralisation within the Duketon Greenstone Belt is highlighted by the Collurabbie discovery by Falcon Minerals Ltd (ASX: FCN) and by the recently revived Windarra nickel mine to the south held by Poseidon Nickel Limited (ASX: POS).

## THE BULGE ROSIE AND C2 PROSPECTS

During the period exploration and scoping study work continued as planned to evaluate the potential for an open pit mine at the C2 and an underground mine at the Rosie Ni-Cu-PGE Prospects. Subsequent to the end of the period (ASX Release dated 25<sup>th</sup> January 2012) Independence finalised an initial JORC Compliant Mineral Resource Estimate for the Rosie deposit (Table 5). The total Rosie Mineral Resource above a 1% Ni cut-off is currently estimated at 1,744,000t @ 1.7% Ni (29,800 Ni t), 0.4% Cu and 1.9g/t Pt + Pd (platinum and palladium) according to the resource classification categories specified in Table 5.

The Rosie Resource estimate does not include the C2 mineralised zones located approximately 1.7km to the north west (Figure 6).



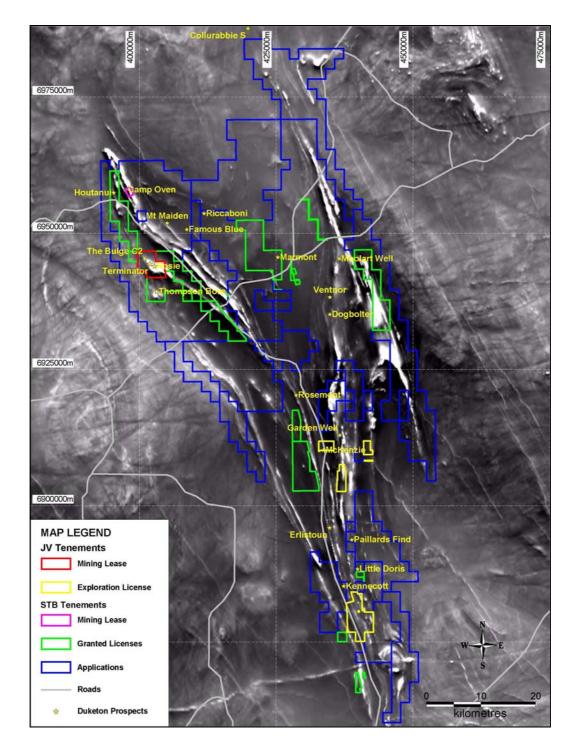


Figure 5: Duketon Gold and Duketon Nickel JV tenements and applications shown over a magnetic image.

Rosie Nickel Resource >1.0%Ni - December 2011										
Classification	Oxidation	Tonnes	Ni (%)	Ni (t)	Cu (%)	Pt (g/t)	Pd (g/t)	Pt+Pd (g/t)		
	Fresh	685,000	1.9	13,300	0.4	0.8	1.1	1.9		
Indicated	Transitional	30,000	1.6	500	0.3	0.7	1.2	1.9		
	Sub-Total	715,000	1.9	13,800	0.4	0.8	1.1	1.9		
	Fresh	990,000	1.6	15,400	0.4	0.8	1.2	2.0		
Inferred	Transitional	39,000	1.6	600	0.2	0.7	1.0	1.7		
	Sub-Total	1,029,000	1.6	16,000	0.4	0.8	1.2	2.0		
Tot	1,744,000	1.7	29,800	0.4	0.8	1.1	1.9			

Table 5: Rosie Ni-Cu-PGE Resource December 2011.



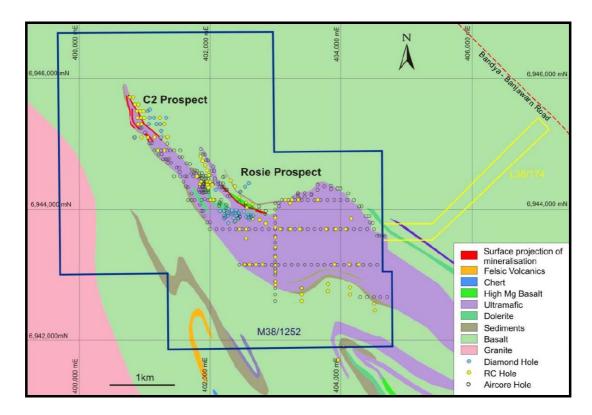


Figure 6: Location of the Rosie deposit within Mining Lease M38/1252 over interpreted geology, with current drill hole locations.

The Resource occurs over a vertical depth of approximately 600m and a strike length of 1,100m. The geometry of, and distribution of metal within the mineralised zones has been affected by multiple phases of tectonic modification which impacts exploration targeting. **Mineralisation remains open along strike and at depth.** 

The distribution of Indicated and Inferred classified material is illustrated in *Figure 7*. Mineralisation at Rosie consists of disseminated, matrix, stringer, breccia massive and massive Ni-Cu-PGE sulphides (*Figure 8*) at, or adjacent to, the contact of the Bulge ultramafic complex with the adjoining basalt and dolerite (*Figure 9*). It strikes approximately north-west and dips steeply to the south at the south eastern end and is sub-vertical in the central and northern zones.

The Rosie mineralisation is of medium tenor (8-10% Ni in 100% sulphides), has a Ni/Cu ratio of about 10:1 and has significant Pt and Pd credits. The Pt "tenor" averages about 3g/t and is moderately variable, typically in the range of 2-6g/t. The Pd "tenor" averages about 3-4g/t and is more variable, typically in the range of 1-10g/t. Analysis of PGEs indicates that the mineralisation may also have significant Ruthenium and Rhodium concentrations.

The mineralogy of the system appears to be similar to typical Kambalda-style magmatic Ni systems, with pyrrhotite, pentlandite and chalcopyrite as the dominant sulphides in the primary portion of the mineralised zone.

Three mineralised domains were modeled; a higher grade Contact domain with lower grade Footwall and Hanging Wall domains. Only the Contact domain is included in this Resource estimate. The Rosie Mineral Resource Estimate Parameters are included in the Appendix.



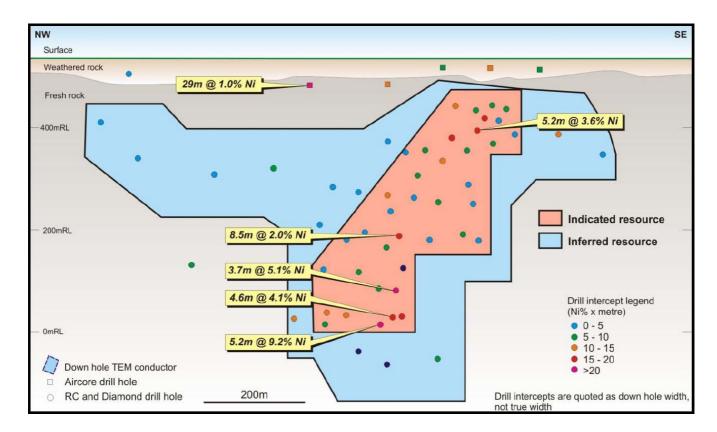


Figure 7: Rosie Resource – Longitudinal Projection showing Indicated and Inferred Mineral Resource Boundaries.



Figure 8: Rosie deposit massive sulphides in TBDD098, with coarse grained pentlandite porphyroblasts. The down hole intercept comprised: 5.20m @ 9.13% Ni, 1.09% Cu, 0.21% Co and 7.09g/t PGEs (PGEs include 2.22g/t Pt, 1.74g/t Pd, 0.82g/t Rh, 1.79g/t Ru.



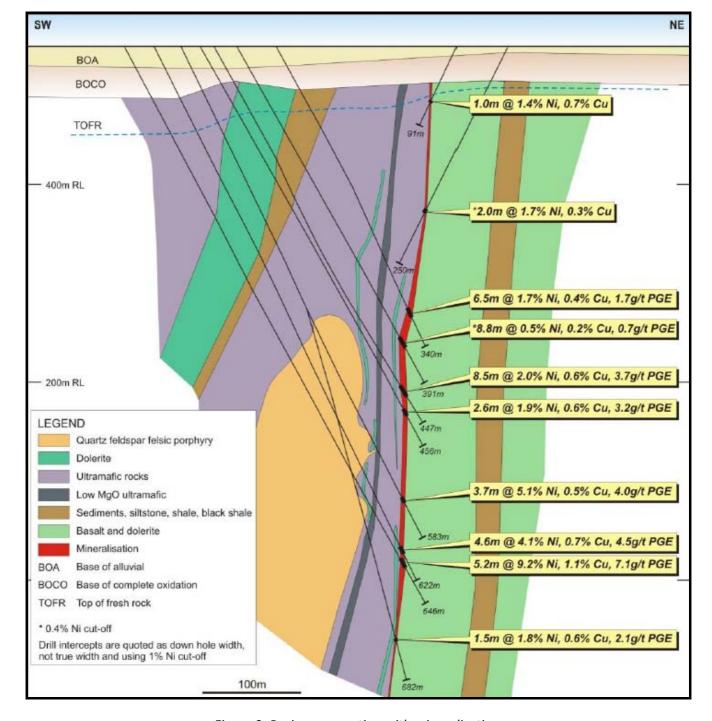


Figure 9: Rosie cross-section with mineralisation.

A further phase of exploration at Duketon is scheduled to commence in February 2012 testing numerous targets including:

- strike and depth extensions of the Rosie deposit targeting thicker, higher grade zones in the "Contact" mineralised domain (*Figure 10*);
- possible repeats of Rosie-style mineralisation between Rosie and the C2 disseminated Ni sulphide discovery 1.7km to the north west;
- higher grade zones within C2.



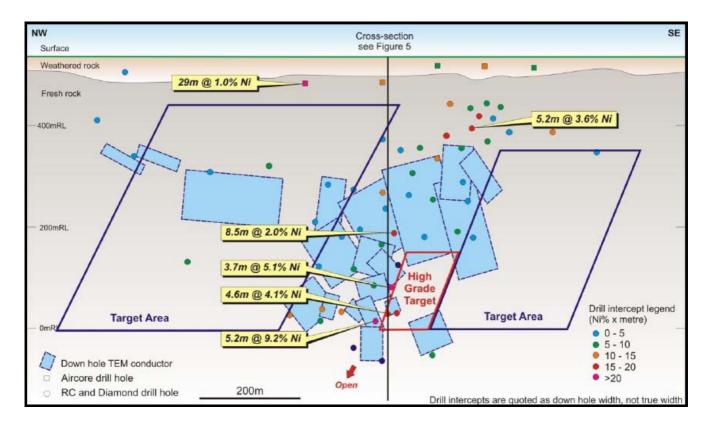


Figure 10: Rosie Longitudinal Projection showing drill hole intercepts, DHEM conductors and drill targets.

The current drilling program is part of continued work programs and studies into the economic parameters of a mining project comprising an underground mine at Rosie and an adjacent open pit mine at C2.

Key engineering scoping study activities commenced or completed to date include;

- Grant of Mining Lease (22nd of November 2010);
- Flora survey as part of an Environmental Baseline Study (complete);
- Initial resource drilling at Rosie and C2 (complete);
- Compilation of initial JORC-Compliant Mineral Resource Estimate (underway);
- Exploration base camp approvals (complete);
- Water extraction license (complete);
- Engagement of Aboriginal heritage consultants (complete).

## Competent Persons and Responsibility Statement Duketon Nickel JV

The information in this report that relates to the Duketon Nickel JV has been compiled by Lorry Hughes using information on exploration results supplied by South Boulder Mines Ltd and Independence Group who are the operator of the Duketon Nickel JV. Lorry Hughes is a member of the Australian Institute of Mining and Metallurgy. Mr Hughes has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking 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". Lorry Hughes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to the Rosie Mineral Resource Estimate is based on information compiled by Mr Paull Parker of Independence Group NL and Mr Mark Zammit of Cube Consulting Pty Ltd, both are Members of either the Australasian Institute of Mining and Metallurgy or the Australian Institute of Geologists. Mr Parker and Mr Zammit have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons, as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources & Ore Reserves'. Mr Parker and Mr Zammit consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

 ${\it Most plans and figure relating to the DNJV have been provided courtesy of Independence.}$ 



## **DUKETON GOLD PROJECT**

From the early 90's the majority of the Duketon Project was held by Normandy Mining Limited and Newmont Mining Corporation. Although wide spaced reconnaissance exploration was sporadically conducted, the vast majority of the project remains under shallow cover and vastly under explored Figure 5.

The Duketon Greenstone Belt contains highly prospective geological sequences and mineralised structures. Numerous structures are known to contain significant gold mineralisation and this is demonstrated by the approximately +6.5M ounces of unmined gold resources currently defined to date within the belt. The +1.5M ounce Moolart Well Gold Project was constructed by Regis Resources NL (ASX; RRL, Regis) in 2010. This mine is currently the only mining operation in the Duketon Belt. Other recent developments in the belt announced by Regis include the +2.5M ounce Garden Well Deposit and the +1.0M ounce Rosemont Deposit which are planned to underpin another stand alone development. These developments will likely have a very positive impact on the future of the Duketon Belt in terms of infrastructure.

### **REGIONAL PROSPECTS**

During the period an archaeological survey was conducted throughout tenements E38/1800, E38/1537 and E38/1535 by KHC contractors and had been cleared of any significant sites in E38/1800, E38/1537. E38/1535 has a number of sites to be anthropologically surveyed in the coming year.

In this period a reconnaissance air core drilling program with holes spaced 100m apart, was conducted on tenements E38/1800 and E38/1537. Total number of holes was 67 for 3,600m of drilling (Figure 11).

Drilling commenced in late November after several delays due to extreme weather events throughout the Duketon Belt. Due to weather conditions the program is incomplete and expected to be completed in the March quarter.

The program was designed to target the 18km EM anomaly extending to the SE from the Bulge. Previous drilling in the area alludes to a geologically suitable setting for possible continuation of Bulge and Rosie like deposition. Geophysical interpretation isolated and prioritised key areas along strike. The two primary aims of this program were to target these areas to identify the source of the anomalism and to test the extent of the geological parameters defining this ground.

All drilling results from the drilling completed are pending for this program and they are expected in the March quarter.

A key regolith interpretation project compiled by South Boulder is nearing completion (Figure 12). This will be combined with the new magnetic survey and historic data to assist with fine tuning proposed air-core drilling programs in the coming period. It has been South Boulder's view that much of the Duketon Belt has been ineffectively explored due to lack of understanding about the regolith and the application of ineffective exploration techniques.



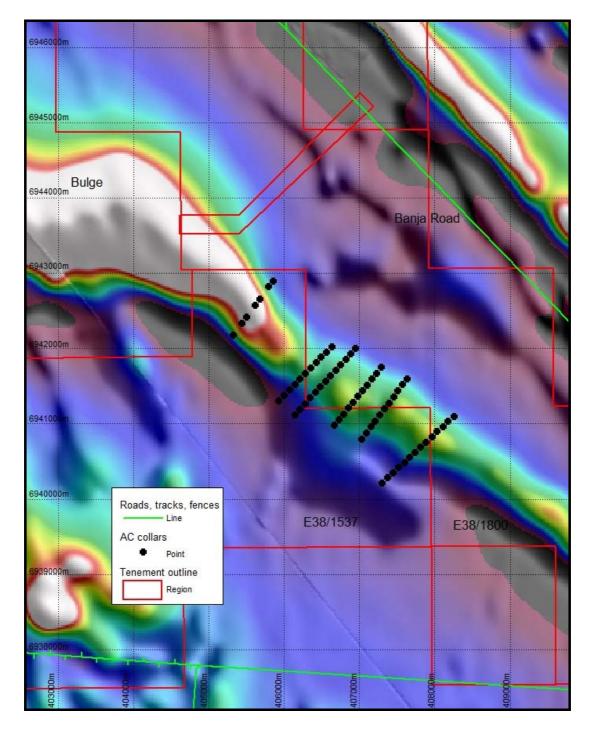


Figure 11: Planned drilling locations for E38/1800 and E38/1537.

# **TERMINATOR PROSPECT**

The Terminator Gold Prospect was discovered during a geochemical aircore drilling program on E38/1537 (now M52/1252) during September 2009. The Prospect is located approximately 1.4km south along strike of the Bulge C2 Nickel Prospect Figure 5.

RC drilling completed in 2010 intersected high grades up to 28.60 g/t Au over 1m as well as broad intercepts of highly anomalous mineralisation. It is intended to conduct further RC drilling at Terminator and regional targets in a combined Duketon Regional Gold exploration program.

During the period, work was focused on targeting extensions to known mineralisation and gaining a better understanding of the structural complexities of the deposit. No holes were drilled during the period.



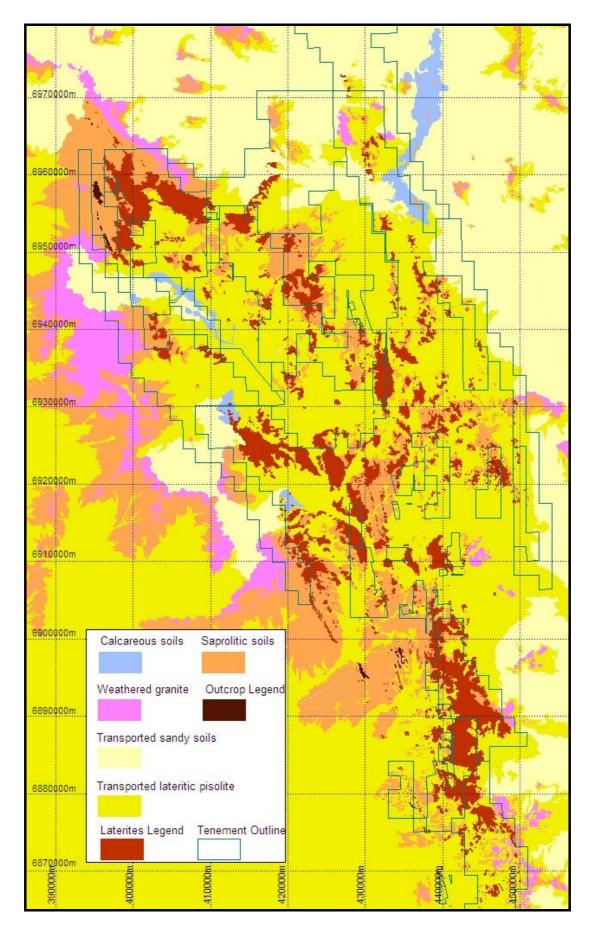


Figure 12: Duketon Regolith Map



#### THOMPSONS BORE PROSPECT

The Thompson's Bore Gold Prospect is located within E38/1537, 5km due south of the Bulge Nickel Sulphide discovery. Previous aircore intercepts include values up to 75.30g/t over 1m from 14m and 8.70g/t over 11m from 35m. The mineralisation at Thompsons is considered open in all directions and indications are that mineralised intersections are significantly depleted down to depths of ~ 80m. At least 2 and possibly 3 steeply dipping, parallel north - northwest striking gold zones exist within the project. During the period, work was focused on targeting extensions to known mineralisation and gaining a better understanding of the structural complexities of the deposit. No holes were drilled during the period.

## Competent Persons and Responsibility Statement Duketon Gold

This The information in this report that relates to the Duketon Gold Project has been compiled by Lorry Hughes using information on exploration results supplied by South Boulder Mines Ltd and Independence Group who are the operator of the Duketon Nickel JV. Lorry Hughes is a member of the Australian Institute of Mining and Metallurgy. Mr Hughes has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking 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". Lorry Hughes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## **PORTFOLIO DEVELOPMENT**

South Boulder has a policy of regularly reviewing its project and equity portfolios with a view to adding or realising value. Due to prevailing global financial conditions over the last 3 years rationalisation of the project portfolio has been important to ensure the company focuses on core projects and is well funded to add value.

The board had previously resolved to divest the non-core phosphate exploration portfolio comprising the Cardabia and the Georgina Basin phosphate projects. Options are being reviewed on how to create value from the projects considering the Georgina Basin Project is funded by Auvex Resources Ltd. Discussions are ongoing. South Boulder will continue to implement a policy of reviewing acquisitions both within Australia and offshore and will inform shareholders if and when an acquisition is tendered.

The equity portfolio of listed exploration companies derived from divestment of non-core exploration assets is valued at ~ AUD\$2.5m. The portfolio is under regular periodic review in order to determine opportunities for divestment to add to funds for working capital. Over the last 12 months as equity markets have been depressed it has been difficult to justify divestment. Investor appetite and overall market conditions appear to be generally improving and there is likely to be further opportunities to realise better value for South Boulder shareholders. South Boulder holds a number of shares and options in ASX and TSX listed companies (Table 6).

Company Name	Stock Exchange	No of fully paid Shares	20c/25c Options	Option Expiry Date
Montezuma Mining Company Ltd	ASX	5,382,000		
Buxton Resources Ltd	ASX	1,610,000	750,000	30/06/2012
Avonlea Minerals Ltd	ASX	400,000		
Lithex Resources Ltd	ASX	1,016,000		
Continental Nickel Ltd	TSX	121,200		
Auvex Resources Ltd	Private	500,000		



#### CARDABIA PHOSPHATE PROJECT

The 100% owned Cardabia Phosphate Project is located in the northern Carnarvon Basin in Western Australia, approximately 200km north northeast from Carnarvon. The project comprises ~1,642km² of exploration applications and is highly prospective for nodular phosphate. Historic drilling by CRAE Pty Ltd, intersected widespread nodular phosphate and conducted early stage metallurgical test work. Over the period numerous advanced discussions were held with South Boulder senior management and with fertilizer industry participants. Discussions are continuing.

## SOUTHERN GEORGINA PHOSPHATE PROJECT

The 100% owned Southern Georgina Phosphate Project is located in the central east Northern Territory, approximately 450km east north-east of Alice Springs. The tenements comprise 3 granted exploration licenses (EL26380, EL25983 and EL25982). Auvex Resources Limited (Auvex) purchased 90% of the manganese and base metal rights and 10% of the phosphate rights on the project.

Under the terms of the agreement South Boulder has a free carried 10% interest in the manganese and base metal rights up until the delivery of a Feasibility Study (FS). At that point South Boulder can elect to contribute or dilute to a \$2 per dry metric tonne (DMT) sold royalty for manganese or a 1.5% N.S.R. royalty in the case of base metals. Under the same terms, Auvex has a 10% free carry to a FS and then can either contribute or dilute to a \$2 per DMT sold royalty for phosphate sold. Auvex is pursuing plans to list on the ASX in the future.

## **CORPORATE**

Market volatility was high during the period as it has been throughout the course of the last 3 years. European Union sovereign debt concerns, weak economic data, unrest in the Middle East, earthquakes in Japan and other natural disasters have contributed to unprecedented volatility in global equity markets. South Boulder remains committed to developing its quality assets in Eritrea and Australia and is confident it will be able to secure appropriate project funding that is economically attractive for shareholders.

During the period numerous advanced discussions were held with interested parties in order to identify and evaluate suitable potential business partners to assist with the growth of South Boulder's fertilizer business. There has been a high level of interest from industry groups looking to participate in the rapid growth of the Company.

In order the assist with the growth on the fertilizer business there is potential to undertake a demerger and create a dedicated potash company and a dedicated nickel and gold company. A potential in specie distribution of shares to all shareholders and the listing of a dedicated potash development company on an international exchange is a priority option under review. A decision that will best consider all shareholders is likely to be determined in the next year. Key resource modelling and scoping study analysis for both assets needs to be completed so that South Boulder can attribute suitable valuations to the respective asset and make development decisions accordingly.

On January 4th 2012 it was announced that Mr Flavio Garofalo has joined the South Boulder management team, effective from early February 2012. Mr Garofalo is an experienced finance and corporate executive who has over 20 years experience in the mining industry and was previously Chief Financial Officer and Finance Director for Kagara Ltd (ASX; KZL). The appointment reflects the expansion of South Boulder as it continues the transition into a significant potash producer from the Colluli Potash Project.

Mr Garofalo has successfully undertaken the transition of a number of listed companies from developer to producer and has strong financial links and experience from within the Asia region. In addition Mr Garofalo will make significant strategic contributions to South Boulder's development of the Duketon nickel and gold projects and the planned in specie distribution of the assets to shareholders.

South Boulder is listed on the Australian, Frankfurt, Munich and Berlin Stock Exchanges. The relevant codes are ASX: STB, SO3.F, SO3.MU and SO3.BE respectively, and can be accessed via Yahoo Finance. In addition a Sponsored American Depository Receipt (ADR) Program has been established to create a broader secondary market for South Boulder equities particularly in the United States and Canada, thereby providing better access for North American investors to trade in STB securities.

The ADR's will be tradeable via licensed U.S. brokers in the ordinary course of trading in the Over-The-Counter (OTC) Market in the U.S. STB has appointed The Bank of New York Mellon (BNYM) as its authorised U.S. representative, Principal American Liaison (PAL) and Depository Bank to establish the ADR facility. Particulars for the U.S. sponsored ADR program is as follows;

U.S. Exchange; OTC

Ticker Symbol; SBMSY

CUSIP Number; 836709105

DR ISIN Number; US8367091050

ADR to Ordinary Share Ratio; 1:1

The establishment of the ADR program is the first step in listing STB on the OTCQX Exchange in the U.S. which is expected to follow upon. Participation in the ADR program is to increase STB's exposure and visibility in key markets that have a strong understanding of the potash industry.

South Boulder is well funded to complete the Colluli DFS and is in the process of finalising a fully underwritten 1 for 5 Entitlement Issue to raise  $\sim$  \$10.7m that was announced to the ASX on the 22<sup>nd</sup> of December 2011. This will result in a strong cash position of  $\sim$ \$21 million in early February 2012, an additional \$2.5 million in equities with a further \$4.2 million expected from option conversions.

During the period \$1.027 million was raised from the conversion of 4,470,000 South Boulder share options. The total number of shares on issue at the end of the reporting period is 96,735,688. The total number of options on issue with conversion prices between \$0.20 - \$0.75 is 9,070,000 (\$4.207 million). Upon completion of the Entitlements issue on the  $3^{rd}$  of February 2012 there will be 116,082,826 shares on issue.



# **APPENDIX**

Geological Setting	The Rosie deposit is a komatiite-hosted nickel sulphide deposit. The mineralisation is characterised by accumulations of massive, matrix, breccia and disseminated Ni-Cu-PGE magmatic sulphides at the basal contact of a komatiite ultramafic rock, overlying a mafic pillow basalt footwall +/- fine grained siltstone sediments which may also contain sulphides in varying amounts.
Drilling Techniques	The deposit has been drilled with a combination of Aircore, RC and Diamond drilling (NQ2) from surface to a vertical depth of approximately 600m over a strike length of ~1500m, however mineralisation has been intersected over a strike length of ~1km and is still open to the east and down-dip. The primary method of drilling for the Rosie deposit has been oriented diamond core (NQ2) using the Ace and EziMark orientation tools.
Drillhole Spacing	The drillhole spacing within the area of the resource is a maximum of single holes on 100m spaced sections or less, down to approximately 30 x 30m in places.
Drillhole Collar Positions	Drillhole collars were surveyed using dGPS equipment to sub 0.5m accuracy. A combination of licensed surveyors and company field technicians was used during various programs to determine accurate collar positions. Co-ordinates were surveyed in the MGA94 grid system. No local grid has been established as yet.
Drillhole Directional Control	Dip and azimuth readings have been completed using DHA SEG Target INS— North Seeking Gyroscope for all diamond holes where possible. All gyro downhole surveys have to pass DHS internal audit by cross referencing the in-run and out-run which equates to <10m misclose between IN and OUT run over 1000m (1%). RC drilling has been surveyed approximately every 50m down hole with a Reflex EZ single shot digital camera. Note that the amount of RC drilling used for the resource calculation is less than 20% of the drilling.
Geometry of intercepts	The Contact mineralisation intersected to date is sub-vertical in orientation and forms a semi-continuous sheet of mineralisation approximately 2m true width with an average grade of ~2% Ni (plus Cu, Co and PGE), with thicker accumulations in places. The mineralisation is syn-genetic and as such is not primarily structurally-controlled, however structural modification is apparent with the formation of breccia-ore. The deposit could be classified as a moderately deformed magmatic sulphide deposit. The details of the structural modification and extent of over-printing relationships are a work in progress and not well understood at this stage. The drillholes were orientated to pierce the mineralisation approximately perpendicular to the strike, at an angle of approximately 60 degrees dip, this may vary from time to time depending on the depth and amount of deviation encountered within the drillhole. Drillhole intersections through the mineralisation are suitable for resource estimation and do not introduce sampling bias.
Metal Equivalences	No metal equivalences have been included in this resource estimate.
Sampling techniques	RC drillholes have been sampled initially as 4m composites, and subsequently 1m samples. RC 1m samples were split with a riffle splitter into calico bags where mineralisation has been encountered. Diamond core (NQ2) has been sampled as half core in areas of mineralisation with a 5m buffer sampled at either side of the mineralised zone. The samples are generally 1m intervals, however can be less than 20cm in places based on geology and mineralisation styles. This allows tenor determination of the sulphide mineralisation intercepted. Geological boundaries are deemed sample boundaries, in order to gain multi-element analysis of the complete suite of rocktypes observed, and not to contaminate one rock type with another, and/or mineralisation.  Diamond holes have also been systematically assayed on 1m intervals using a handheld XRF machine (Innov-X Systems) where no physical sampling has taken place. Also, the XRF machine is used to analyse the mineralisation prior to core-cutting, giving a good approximation to the grade intercepted, prior to the receipt of the assay results from the lab. The XRF data have not been used in the resource estimate and are purely used as a guide to the geological interpretation.
Data spacing and distribution	The Contact domain was reviewed in longitudinal projection showing the drill intercept locations. The drill spacing was variable with some well-informed areas where drill spacing was approximately 30 x 30m and some areas where the drilling spacing was in excess of 50 x 50m, to 100 x 100m in parts. The data spacing and distribution is sufficient to establish geological and grade continuity appropriate for the Mineral Resource estimation procedure and classification applied.
Sample preparation and assaying	All assay results reported to date for the Rosie deposit have been determined at Ultra Trace Pty Ltd (now Bureau Veritas Group), Canning Vale, WA.  All samples were sorted and dried in ovens for up to 24 hours (approx +/-) at 105 deg C. Primary sample preparation has been by crushing the whole sample. For RC samples, the whole sample was crushed to a nominal 3mm. For diamond core the whole sample was crushed to a nominal 10mm (primary crush) and then further crushed to a nominal 3mm. All samples were then split with a riffle splitter to obtain a sub-fraction, a nominal 2.4 kg sample where possible. All material was retained after splitting. Samples were then milled using a robotic preparation system to 90% passing -75um. Sample catch weight was 0.15g for Mixed acid digest.



1m split RC samples and all diamond core samples have been analysed for: Au(1ppb), Pt (5ppb), Pd(5ppb) – the samples have been analysed by firing a 40g portion of the sample. Lower sample weights may be employed for samples with very high sulphide and metal contents. This is the classical fire assay process and will give total separation of gold, platinum and palladium in the sample. Au(FA), Pt(FA), Pd(FA) have been determined by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). As(1ppm), Co(5ppm), Cu(2ppm), Cr(10ppm), Fe(0.01%), Ti(50ppm), Ni(2ppm), Zn(2ppm), Mg(0.01%) and S(0.01%) - 0.15g was digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric Acids. This extended digest approaches a total digest for many elements however some refractory minerals are not completely attacked. The mixed acid digest (0.3g sample weight) is modified to prevent losses of sulphur from high sulphide samples. The samples are peroxidised using an oxidant that converts the sulphides present to sulphates. As has been determined by Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Co. Cu, Cr, Ti, Fe, Ni, Zn, Mg, S have been determined by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). High Sulphide content Diamond Core samples have also been analysed for 6 PGE: Pt(1ppb), Pd(1ppb), Rh(1ppb), Ru(1ppb), Os(1ppb), Ir(1ppb) – the samples have been analysed by Fire Assay using Nickel sulphide as the collecting medium. Here a nominal 25g sample is mixed with a Nickel Carbonate / Sulphur based flux and fused at 1120°C for 1.25 hours. The resultant Nickel Sulphide button is pulverised and a portion is digested to remove the Nickel Sulphide base. Ultra Trace ensures recovery of the platinoids by carrying out this stage in a reducing environment which is coupled with Tellurium coprecipitation. The insoluble Platinoid Sulphides are separated by filtration, digested, and the resulting solution is analysed by ICP-MS. If gold has been reported the result may be low. This is a method limitation. Inter-laboratory (Umpire) Checks on pulps from the Rosie deposit were completed at Genalysis, Maddington, WA. The pulps were analysed by a comparative method and for the same suite of elements as those completed at Ultra Trace (detailed above). No audits or reviews of sampling techniques, database integrity and data validation procedures have been completed to date. This work is planned for 2012. Standard Audits or Reviews validation procedures are in place for data upload to the SQL database via the Datashed front end. Assays are merged from electronic files supplied by the laboratory. No errors were detected by Cube Consulting during the resource estimation work All sample/intercept composites have been length and density-weighted. Most diamond core samples have measured density values assigned to them. All RC assay results were assigned a density based on a regression formula calculated from the measured density Sample Compositing and Ni, Cu, Co and S content of the diamond core samples. Where S values were not present, a modified regression formula calculated from the measured density and Ni, Cu and Co was used. Standards were submitted with a minimum 3/100 samples, blanks minimum 2/100 samples, duplicates minimum 2/100 samples, in Aircore and RC drilling. With diamond drillholes, every zone of mineralisation generally had 2 or more standards, 1 or more blanks and 1 or more duplicates spread throughout the zone of mineralisation. Various Geostats Pty Ltd Certified Reference Materials standards have been used from 0.5%, 1%, 2%, 3% Nickel, up to 11.65% Nickel for high grade massive sulphide. A Gold, Platinum and Palladium standard has also been used where Nickel Sulphide Fire Assays have been completed for the PGE suite of elements. Standards were submitted within mineralised intervals in a suitable location based on the expected grade of the zone being sampled and using a comparable grade standard, i.e., disseminated mineralisation would have a ~0.5% Ni standard inserted into the sample run, whereas matrix sulphide mineralisation may have a Quality Control 3% Ni standard inserted and so on. procedures Three standards have consistently returned a low result, irrespective of the laboratory used: GBM310-12 expected value 2.993%Ni, mean value obtained 2.880%Ni, and mean bias 3.79% GBM305-13 expected value 2.971%Ni, mean value obtained 2.693%Ni, and mean bias -9.34%. GBM307-11 expected value 1.128% Ni, mean value obtained 1.029% Ni, and mean bias -IGO has been in discussions with various laboratories to ascertain the reason for these standards returning lower than expected values on a consistent basis. Note that other standards in use returned results within acceptable limits. IGO has concluded that the standards returned reduced values as a consequence of oxidation of the standard pulps. Procedures will be changed to purchase and use standards within a shorter time frame and



to store them in a manner that will minimise their degradation. Duplicates have been taken using 1/4 NQ2 core. External laboratory (umpire) checks have been completed on 1.37% of the total sample count and generally show good correlation in the majority of the samples, indicating a reasonable level of accuracy and precision has been obtained from the primary laboratory. Total Blank count for the resource drilling is 1.63% of samples. Total Standard count for the resource drilling is 2.87% of samples. Total Field Duplicates for the resource drilling is 2.07%. The IGO QAQC protocol has been modified recently and submission of samples to meet QAQC guidelines will increase in future programs. No twin holes have been completed at this time and will be addressed in the next infill resource drilling program. The majority of the resource drilling to date has been diamond core and sample quality on the whole was excellent. Wet samples have been recorded for RC drilling, however the wet Drill Sample Recovery samples were not used in the resource estimate. Logging has been completed in detail for diamond core including rock type, grain size, texture, colour, foliation, mineralogy, alteration and a detailed description written for every interval. In sections of oriented diamond core structural measurements of fractures, foliation, veins and shearing have been measured systematically using the Kenometer, with Alpha and Beta measurements taken for each feature where possible. If the core is not orientated only an Alpha reading has been taken. RC chip samples have been logged with a detailed geological description. All logging is of a level sufficient in detail to support resource estimation. All diamond holes are logged on paper logs using the IGO geological codes library and a detailed written description is recorded for each interval. The logs are then data entered into an excel spreadsheet before being uploaded to the SQL database with a Datashed front end. All original paper logs are stored in the Perth Office in lever-arch folders and digital records are stored on the server. Field Marshall software is used for RC logging and the files are loaded directly into the SQL Geological Logging database. and Photography Core photography has been completed both wet and dry for the majority of the diamond drilling over the entire length of the hole. The photographs are labelled and stored on the Perth server. Geotechnical logging has been completed for 30m either side of the footwall contact/mineralisation - and involved measuring fracture frequency, depth, hardness, fracture type, alpha, beta angle, profile of the fracture, the roughness of the joint surface, the infill type and characteristics. These data are recorded on paper logs, entered into an excel spreadsheet which is then loaded into the SQL database by the database administrator. The handheld Innov-X XRF machine stores a multi-element analysis of the point at which the reading was taken. These data have been used as an aid to the geological interpretation of the drilling where sampling and analysis by a laboratory has not taken place. The XRF machine is also used to analyse the mineralisation prior to sampling, which gives a good approximation to the grade intercepted and allows a visual estimate to be obtained from the core prior to the receipt of the assay results from the lab. No handheld XRF data have been used in the resource estimate. There is a high confidence level in the geological interpretation and that of the mineralisation. The resource estimate has been guided by the geology due mostly to the fact that the mineralisation is syn-genetic and directly linked to the contact horizon of the base of the ultramafic rock unit in which it resides. The grade distribution of the mineralisation has been used as a controlling guide for the wireframes for the estimation, the rock type of the mineralised envelope will vary in places but is in general restricted to ultramafic rocks and minor zones of the footwall sediments and basalts. The grades are Geological highest in the ultramafic rocks and weakest within the sediments and basalts of the footwall Interpretation units. The main factors affecting continuity of grade are rock type and amount of structural deformation within the zone of mineralisation. Some minor remobilisation into the footwall units has been observed. Cube Consulting interpreted a single Contact mineralisation domain as well as Footwall and Hangingwall disseminated domains, based on the geological logging. The Contact mineralisation was defined by the mineralisation style and position relative to the basal geological contact (ultramafic), and displays grades of greater than 1% Ni.



	and Hangingwall domains were interpreted based on mineralisation styles of heavily disseminated sulphides (10-40% sulphides) and stringer sulphides (10-75% sulphides), and typically display grades generally greater than 0.2% Ni. Wireframes were built for all three mineralised domains and were used to constrain grade interpolation. The wireframe for the Contact mineralisation was constructed to include all mineralised drillholes, however the resource estimate was limited to boundaries around blocks considered appropriate for inclusion in the resource estimate.  A felsic porphyry intrusion in the hangingwall of the Contact mineralisation was also modelled. This porphyry is more than 50m from the Contact mineralisation and does not
	intersect it.
Dimensions	The drilling used for the estimate of the Mineral Resource to date spans a vertical depth of approximately 600m over a strike length of ~1500m, however mineralisation has been intersected over a strike length of ~1km and is still open to the east and down-dip. The main mineralised envelope (+1% Ni) is approximately 2-4m wide (true width) and subvertical in a sheet like orientation striking approximately north-west to south-east. The mineralisation projects to the surface, however is obscured from direct detection by a thin veneer of transported overburden (~10-20m thick).
	Isatis v11.2 and Surpac v6.2 software were used for variography, domain modelling and grade estimation. Ordinary kriging was used for grade interpolation, based on the variography and validation of the search orientations in Surpac. All grade interpolation was constrained to within the interpreted domain boundaries.
Estimation and Modelling Techniques	The Contact domain was estimated using a 2D projection method, which simplifies undulating, narrow lode geometry onto a longitudinal plane. Drillhole intercepts for each intersection were represented as a single point composite per drillhole. The horizontal width for each intersection was calculated and composites carried accumulation variables for each element. The accumulation variable for each element was the top-cut grade x horizontal width x density. Also carried was the density thickness accumulation variable (density x horizontal width). Variography was carried out on the accumulation variables for each element in Isatis. No preferred direction of continuity was obtained from the variography therefore omni-directional searches were used for grade estimation. Accumulation variables for Ni, Cu, Co, As, Au, Pt, Pd, S and density were interpolated into a 2D block model, along with the density thickness accumulation variable and the horizontal width. After kriging, the block grades for each element were back-calculated from the kriged accumulation variables to obtain the element grades (accumulation variable / density thickness accumulation variable).
	A high grade sub-domain was identified within the Contact domain. The estimation neighbourhood was constrained so that the grade within the high grade domain was not over-represented. Blocks inside the high grade domain were estimated using all intercept composite data and blocks outside the high grade domain were estimated using only the intercept composite data outside the high grade sub-domain.
	The block centroids and grades were converted to 3D and imported into a real world block model using nearest neighbour assignment. The orientation, block size and sub-celling regime of the real world block model were designed to provide sufficient volume resolution for accurate surface geometry representation.
	Hangingwall and Footwall sub-economic mineralisation was also modelled but does not form part of the resource estimate. Arsenic (As) is a deleterious element and has been estimated into the resource model.
	No previous resource estimates have been completed for the Rosie deposit.
Block Modelling	The 2D block model consisted of 50 x 50m parent cells (longitudinal grid) with a single cell 1m thick in the longitudinal plane. Data spacing, geometry of mineralised zones and volume fill were the primary considerations in selecting this parent block size.
	The 3D block model was 1088m in X, 960m in Y and 800m in Z. The parent cells were 16mN x 16mE x 16mRL, sub-celling to 1mN x 1mE x 2mRL for better volume resolution.
Moisture	Tonnages are currently estimated with natural moisture with laboratory testwork planned in future infill drilling programs to determine actual moisture content. It is expected that the moisture content will be very low (<1%) based on IGO's experience with other Ni sulphide deposits in WA.
Previous Mine Production	No previous mining has taken place at the Rosie deposit.



#### 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**

South Boulder Mines (ASX: STB) is a diversified exploration and development company focused on potash, nickel and gold. The Company owns a 100% interest in the Colluli Potash Project in Eritrea (Eritrean Government option to purchase 30% and is entitled to a 10% carried interest upon JV formation) 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 133.70Mt @ 17.55% KCl of Measured Resources, 343.33Mt @ 17.38% KCl of Indicated Resources and 87.37Mt @ 24.96% KCl of Inferred Resources for a total of 564.40Mt @ 18.60% KCl (total contained potash of 104.96Mt); This includes higher grade Sylvinite of 130.39Mt @ 27.02% KCl. There is an exploration target of 1.25 – 1.75 billion tonnes @ 18-20% KCl ## (see disclaimer below).

A detailed engineering scoping study for the production of 1Mt p.a. of potash demonstrated an estimated capital cost of USD 0.74bn generating a Pre-tax NPV<sub>12</sub> of USD 1.33 bn. A DFS study into the open pit mining and processing to produce in 2016 or sooner is underway. 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, whereby Independence can earn a 70% interest in the nickel rights on JV 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 Nickel Joint Venture**

Within the Duketon Gold Project area, South Boulder entered a farm-out Joint Venture (JV) Agreement with Independence, whereby Independence can earn a 70% interest in the nickel rights on JV 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. The Duketon Nickel JV has had recent success at The Rosie and C2 Nickel sulphide prospects where drilling has defined intercepts of 5.20m @ 9.13% 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 resource definition and exploration drilling program and scoping study into an open pit mine at C2 and an underground mine at Rosie is underway.

## More information:

Lorry Hughes	Kerry Rudd	Liam Cornelius	Terry Grammer	Dr. Chris Gilchrist
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## **Competent Persons and Responsibility Statement Potash**

The Colluli Potash Project has a current JORC/43-101 Compliant Measured, Indicated and Inferred Mineral Resource Estimate of 564.40Mt @ 18.60% KCl (total contained potash of 104.96Mt); Includes 130.39Mt @ 27.02% KCl. The resource contains 133.70Mt @ 17.55% KCl in the Measured Category, 343.33Mt @ 17.38% KCl in the Indicated Category and 87.37Mt @ 24.96% KCl in the Inferred Category. 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 other than the current 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 43-101 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 organization 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.

