



**QUARTERLY OPERATIONS REPORT  
THREE MONTHS ENDING 31 DECEMBER 2010**

**HIGHLIGHTS**

- **Drill results and the compilation of a maiden JORC/43-101 compliant Mineral Resource Estimate confirm the potential for a highly significant potash development at the Colluli Potash Project in Eritrea;**
- **Measured, Indicated and Inferred resources located at <100m depth total 548Mt @ 19% KCl including 119Mt @ 23% KCl (total contained potash of 102Mt) have been defined to date;**
- **Increased Exploration Target of;**
  - **750Mt – 1.25 billion tonnes @ 18-20% KCl;**
  - **Includes 450Mt – 750Mt @ 20-23% KCl;**
- **The current potash resource is located from between 22.20m to 64.80m below surface, contains grades of up to 44% KCl (28% K<sub>2</sub>O), has a significant in-ground value and is open in all directions confirming Colluli as the world's shallowest buried potash deposit;**
- **Near term potash resource upgrade is expected on receipt of outstanding assay results from holes 006-017 with drilling and geophysical surveys continuing. An engineering scoping study into the optimum potash processing capacity from 1 – 10Mt p.a is underway;**
- **Mining Lease (M52/1252) over the C2 and Rosie Ni-Cu-PGE sulphide deposits was granted on the 19<sup>th</sup> of November. Drilling and scoping study work is continuing;**
- **Further nickel sulphides intersected at the Rosie deposit to follow up the outstanding downhole intercept of 5.20m @ 9.13% Ni, 1.09% Cu, 0.21% Co and 7.09g/t PGE's (2.20g/t Pt, 1.74g/t Pd, 0.82g/t Rh, 1.79g/t Ru);**
- **Duketon Gold Project aerial magnetic surveys due to commence in February followed by aircore testing of targets;**
- **\$7.00 million raised through an above market placement of 3.5 million shares @ \$2.00 per share to Sprott Asset Management LP, for and on behalf of certain Sprott Funds and managed accounts;**
- **\$1.13million raised from the conversion of 4,620,000 options;**
- **South Boulder remains highly leveraged to further exploration and development successes and is well funded with ~\$15m in NTA.**

## POTASH PROJECTS

### The Colluli Potash Project

During the period exploration work has focused on drilling and resource definition. Subsequent to the end of the period a key interim milestone was completed with the compilation of an initial JORC/43-101 compliant Mineral Resource Estimate. The resource estimate was compiled by independent potash industry experts Ercosplan Ingenieurgesellschaft Geotechnik und Bergbau mbH (Ercosplan) using standard industry techniques and practices that are in effect across the global potash industry for buried potash deposits.

The total Measured, Indicated and Inferred resource comprises sylvinite, carnallite and kainite ores of **547.62Mt @ 18.58% KCl** with a higher grade portion of sylvinite and carnallite ores of **119.21Mt @ 23.14% KCl**. The resource has been compiled using assay information from 3 holes as shown in Figure 1. The total resource by category is shown in Table 1.

	<b>Tonnes (Mt)</b>	<b>Grade (% KCl)</b>	<b>Mt (Potash)</b>
<b>Total Inferred</b>	340.86	18.58	63.34
<b>Total Indicated</b>	173.37	18.57	32.20
<b>Total Measured</b>	33.39	18.56	6.20
<b>Total Resources</b>	<b>547.62</b>	<b>18.58</b>	<b>101.73</b>

**Table 1: Total JORC/43-101 compliant resource by resource category using a variable cut-off grade.**

<b>Ore Types</b>	<b>Tonnes (Mt)</b>	<b>Grade (% KCl)</b>	<b>Mt (Potash)</b>
<b>Sylvinite Measured</b>	6.24	23.10	1.44
<b>Sylvinite Indicated</b>	32.28	23.12	7.46
<b>Sylvinite Inferred</b>	64.86	23.21	15.06
<b>Upper Carnallite Measured</b>	0.99	22.87	0.23
<b>Upper Carnallite Indicated</b>	5.10	22.87	1.17
<b>Upper Carnallite Inferred</b>	9.74	22.87	2.23
<b>Total Sylvinite and U.Carnallite</b>	<b>119.21</b>	<b>23.14</b>	<b>27.58</b>

**Table 2: Total JORC/43-101 compliant resource, sylvinite and upper carnallite only, using a variable cut-off grade.**

The resource categories and cut-off grades have been determined based on standard potash industry practice and the opinions of the authors at the time of the report. Some geological information has been used from a number of holes drilled during the period of resource compilation which has assisted with the geological interpretation of the final resource area without utilising assay information. Once the assays have been returned from holes 006 – 017 it is expected a significantly upgraded resource will be compiled. The geological logs for the holes 006 – 017 are shown below in Appendix A.

Cut-off grades used for the resource estimate were variable depending on the ore types and  $MgCl_2$  content as follows;

**Sylvinite Member** – A sample is part of the resource if the KCl grade of the sample is > 15%, or when the average grade of all samples reaching up to 1.5m below and 1.5m above the sample have an average sylvite grade of > 12%. If no samples with sylvite content > 15% are present above the sample, this sample is taken as the top of the deposit.

**Upper Carnallite Member** – A sample is part of the resource if the KCl grade of the sample is >10%, or when the average grade of the sample above and below are above 10%. The cut-off grade towards the underlying Bischofite Member is when the sample has a  $MgCl_2$  content, which is over 35%.

**Lower Carnallite Member** – A sample is part of the resource when the carnallite content summed with kieserite content is above 60%.

**Kainite Member** – A sample considered part of the resource when the kainite content is above 30%.

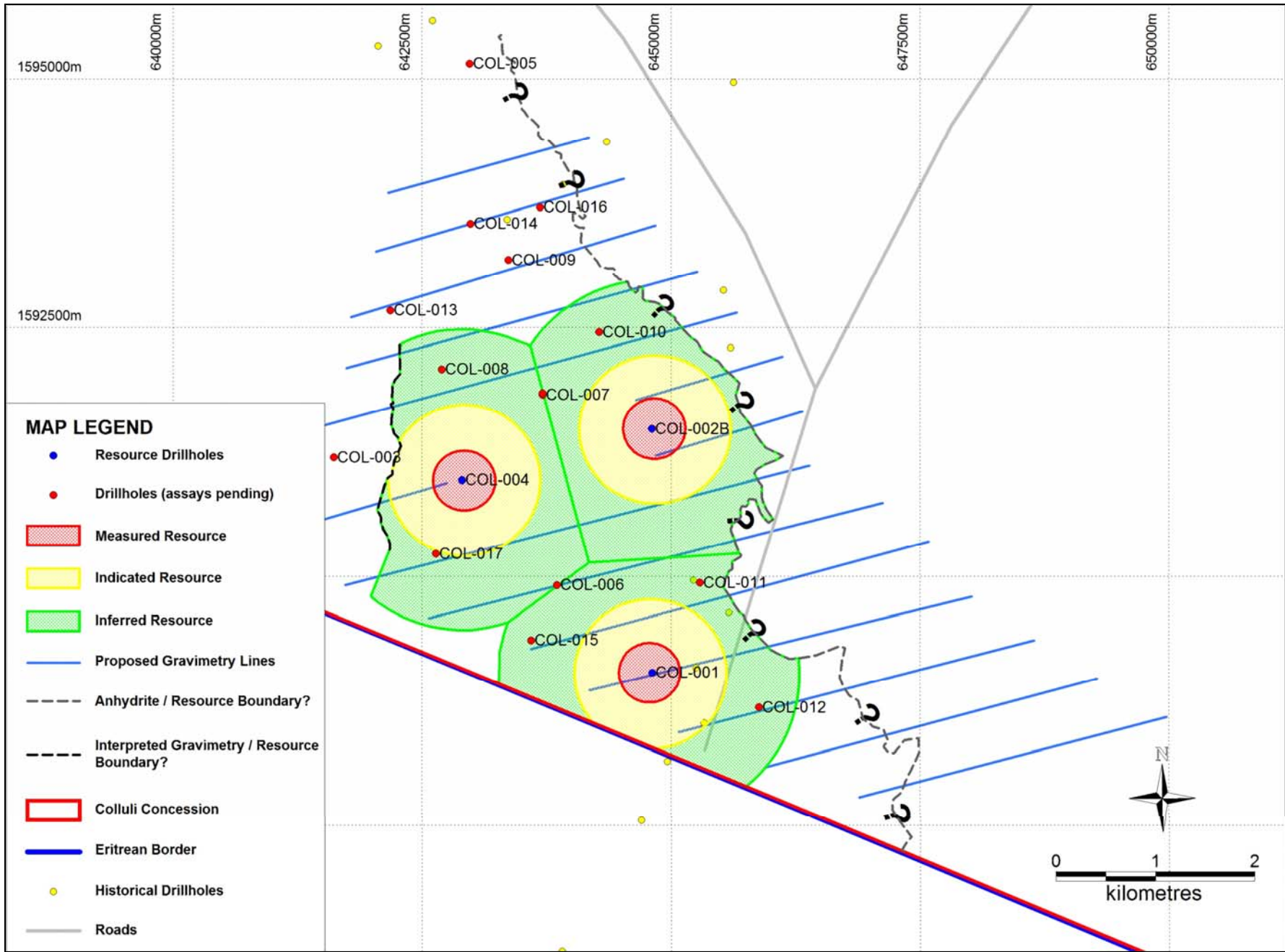


Figure 1: Colluli Project plan showing drilling, resource categories and proposed gravimetric survey lines.

Measured, Indicated and Inferred resource categories were determined as follows;

**Measured Resources** – Mineral resource extends in a 300m radius from a potash bearing South Boulder drill hole, excluding any potential identified boundary of the deposit.

**Indicated Resources** – Mineral resource extends from a 300m - 750m radius from a potash bearing South Boulder drill hole, excluding any potential identified boundary of the deposit.

**Inferred Resources** – Mineral resource extends from a 750m - 1,500m radius from a potash bearing South Boulder drill hole, excluding any potential identified boundary of the deposit.

In addition, as part of the resource compilation process a resource reduction factor of 25% on the resource area on Figure 1, was applied by Ercosplan in order to reflect the level of uncertainty of continuity of resources at the time. It is expected that once outstanding assays are returned, the level of confidence in the resource estimate will enable most of the resource area to report to the Measured and Indicated categories.

### **Resource Potential/Discussion**

The geological continuity and predictability of the Colluli deposit, as is typical of numerous other potash deposits across the globe, has been proven through drilling to be substantially strong. The strong continuity has facilitated the Inferred resource category to extend up to 1,500m from a potash bearing drill hole (Figure 1). It is expected that outstanding assay results will provide a better estimate of tonnage and grades reported, and allow most of the current drilling area to report to the Measured and Indicated resource categories. Further to this, surface and downhole seismic surveys are planned to be conducted to better define the subsurface geometry of the potash bearing units and any potential geological structures.

The deposit is clearly open in all directions (Figure 2 and 3); however the company has adopted a conservative approach to the geological interpretation and the compilation of the initial Mineral Resource Estimate. This reflects the confidence level of the resources at the time of reporting, based on the available drilling information.

The currently defined eastern boundary of the resource has been interpreted by the location of an anhydrite sequence. This is marked with question marks on Figure 1 and can be interpreted in Figure 2 as the eastern edge of the white unit. As no historic drilling information is available to the company and the company has not completed any drilling in this area to date, it has not been determined if mineralisation extends past this geological boundary.

The currently defined western boundary of the resource has been interpreted by the location of a gravimetric anomaly which is thought to represent an underlying north-south feature that may have locally truncated the resource in that direction. As no exploration has been completed to the west of hole Col-003, the deposit is still considered open in this direction.

In addition to drilling, the company has been utilising ground gravimetric surveys to assist with interpreting the resource extents and drilling targets. To date the method has proved encouraging and a larger more extensive survey is planned as shown in Figure 1. It is also planned to examine extending some of the lines to the west to better define the mineral prospectivity prior to drilling.

### **Exploration - Development Program**

The follow-up and extensional ground gravity geophysical survey was commenced on the 29<sup>th</sup> of January. This is a key tool and will be used to target further drilling. Drilling will recommence in February with one rig to define further potash resources. An additional rig capable of drilling larger diameter cores is due to commence metallurgical and geotechnical sampling in late Feb/March.

Outstanding assays are expected to be returned from the laboratory through March and April and combined with additional drilling information will be utilised to compile an updated Mineral Resource Estimate. This updated estimate will be used as the basis for a detailed engineering scoping study into various production scenarios at Colluli. This engineering scoping study has commenced and will evaluate primarily, open pit mining and conventional potash processing to produce 1.0 – 10.0Mt p.a of potash for export and domestic supply.

During the period South Boulder appointed an experienced potash executive to the feasibility team. Dr Chris Gilchrist will supervise the engineering study and work closely with industry experts Ercosplan, Eritrean Government Departments and South Boulder's own mining professionals. Dr Gilchrist has over 30 years experience in the mining industry and is a highly regarded mineral engineer and senior executive.

His expertise covers all facets of the mining life cycle including exploration, feasibility, mineral processing, capital raising, contract negotiation, project management, ramp-up, operations and mine closure. His particularly relevant experience includes the position of General Manager/Operations Director for Cleveland Potash Limited in the U.K. from 1998-2004. He was responsible for the entire 2mt operation which included 2 processing plants, a 22MW CHP power station, private railway and deep water port facility. Additional to that, once the operations were acquired by Israel Chemicals in 2002 he was appointed Chairman of the Potash Technical Forum which was responsible for all the group's operations in Israel, Spain and the U.K.

Further to this experience, Dr Gilchrist has recent experience constructing a new mine in Mozambique as Chief Operations Director for Kenmare Resources Plc from 2004-2008 and worked as part of the executive management team for De Beers Consolidated Mines Ltd, South Africa from 1987-1998.

In February as part of the engineering scoping study ramp up the team will make site investigations and a project needs analysis in consultation with the government of Eritrea. Key tasks will be identified and implemented into the project schedule. Further to this a weather station will be installed at the site in mid February as part of the environmental monitoring and assessment plan.

It is important to conduct early stage environmental and socio-economic work so that items can be identified and addressed in a timely manner so as not to delay project advancement. In addition to the installation of the weather station the following tasks will be addressed during the coming period;

- Terms of reference for a complete Environmental and Social Impact Assessment;
- Construction of a ground and surface water model and monitoring wells;
- Archaeological survey;
- Baseline flora and fauna survey;
- Appointment of key South Boulder personnel.

It is planned to have the engineering scoping study completed by mid 2011.

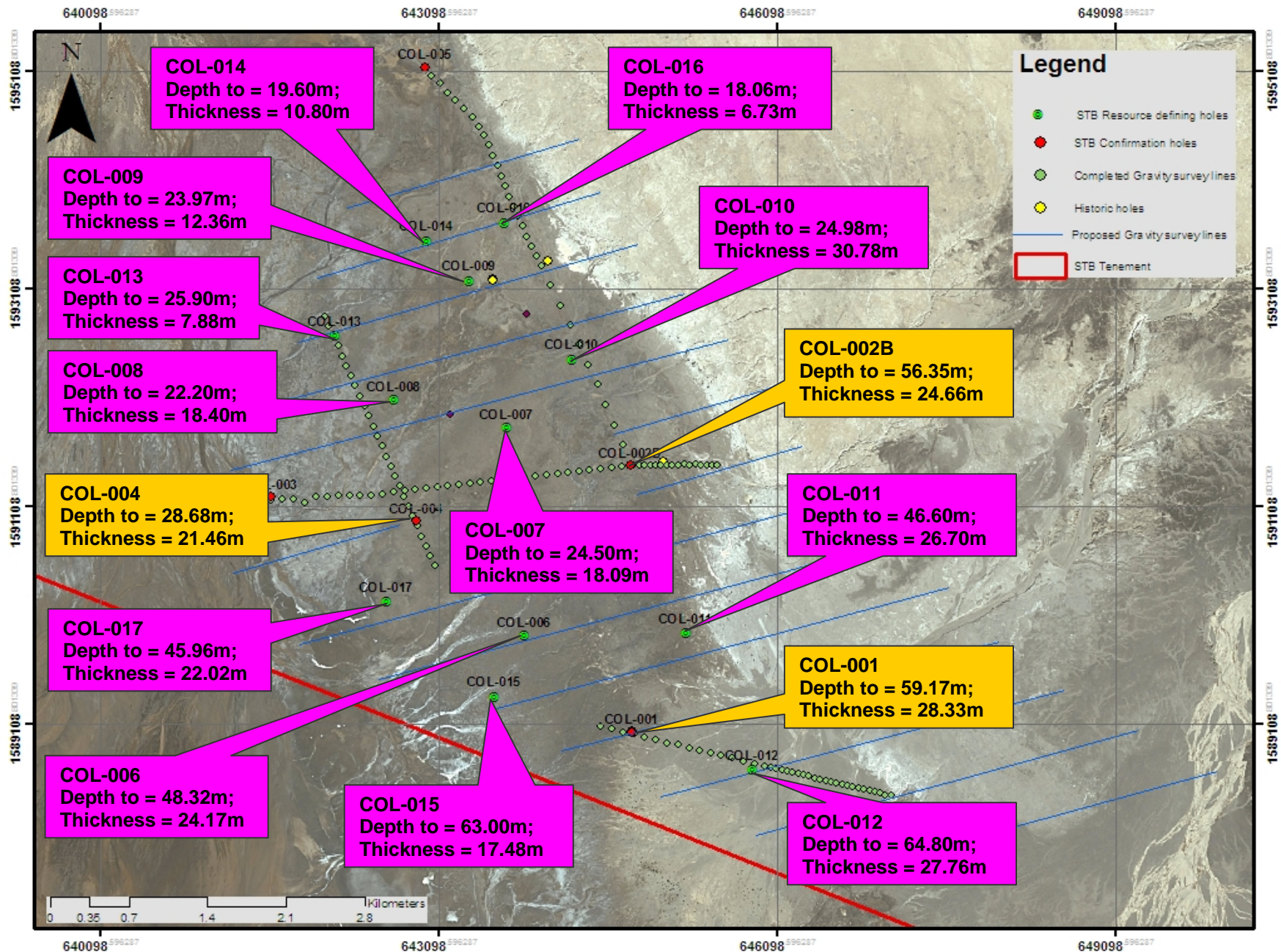


Figure 2: Colluli Project drilling plan showing down hole depth to and thickness of potash bearing intervals. Holes shown in purple have assay results outstanding.

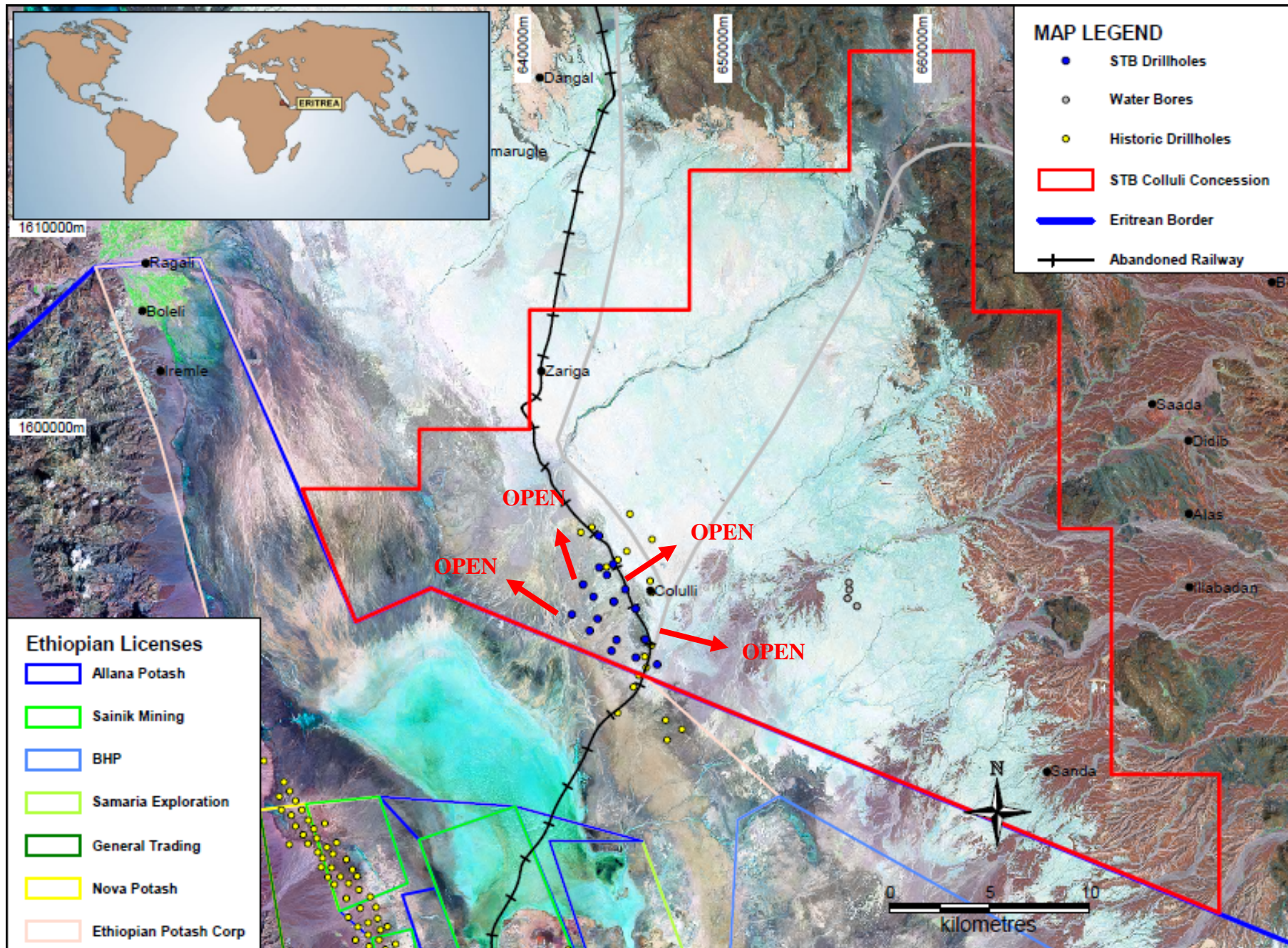


Figure 3: Colluli Project plan showing the exploration license and proximity to neighbouring potash projects.

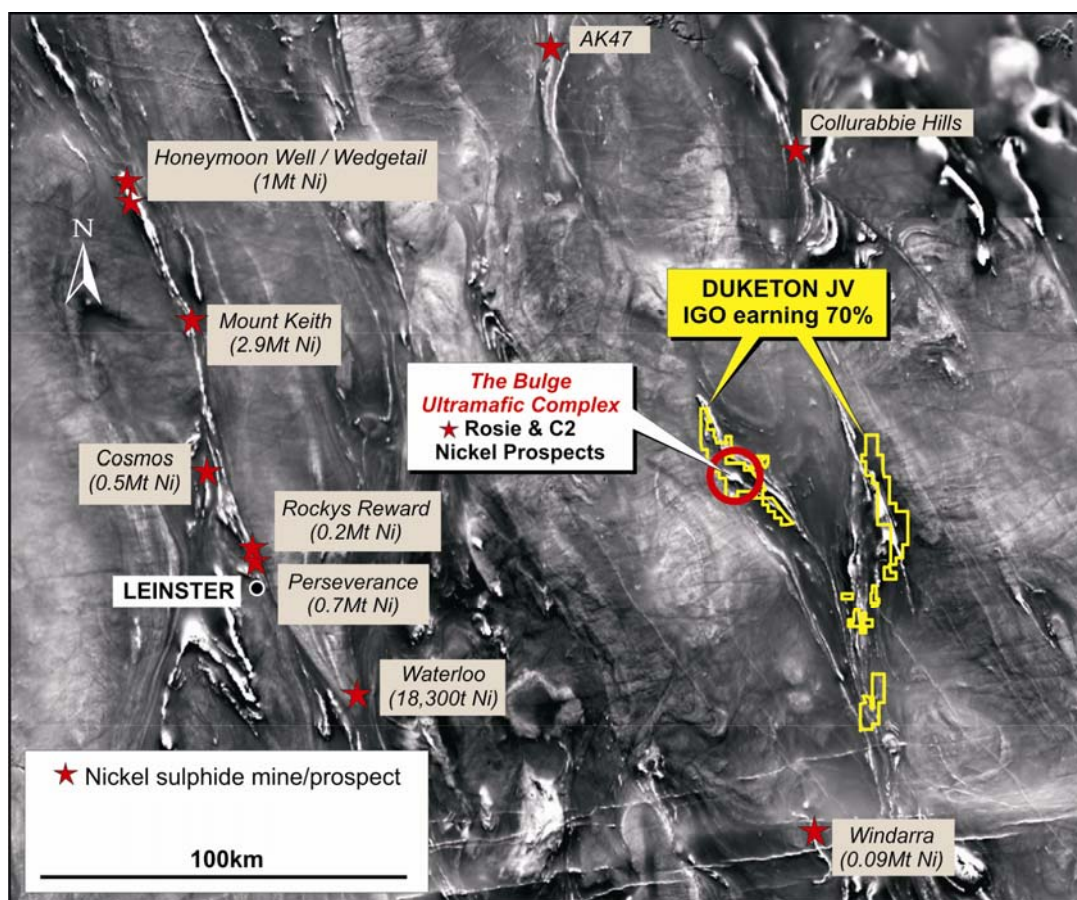
## DUKETON PROJECT

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 as part of the Duketon Nickel Joint Venture (Figure 4).

## DUKETON NICKEL JOINT VENTURE

In April 2004 South Boulder signed a farm-out Joint Venture Agreement with Independence. 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 Duketon Nickel Joint Venture (DNJV) covers ultramafic rich stratigraphy in the Duketon Greenstone Belt which are considered highly prospective for Ni-Cu-PGE (Platinum group element) disseminated and massive sulphide mineralisation. The tenure held within the DNJV is shown in Figure 4, 6 and 11.



**Figure 4 – Duketon Nickel Project over an aeromagnetic image showing proximity to major nickel deposits in the region.**

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.

### The Bulge Rosie and C2 Prospects

During the period exploration drilling 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. The drilling has continued to intersect highly encouraging massive sulphides as well as significant zones of brecciated, stringer and disseminated sulphides (As announced to the ASX on the 22<sup>nd</sup> of November and the 6<sup>th</sup> of December 2011).

Diamond drilling during the period consisted of 3 holes designed to target extensions to the Ni-Cu-PGE sulphide mineralisation at the Rosie Prospect including the outstanding downhole intercept from hole TBDD098 of **5.20m @ 9.1% Ni, 1.1% Cu, 0.2% Co and 7.1g/t PGE's from 599.71m** (Figure 5).



**Figure 5 – JV Rosie Prospect - TBDD098 Massive sulphide intercept - 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**

The three holes were designed to intersect the central axis of an interpreted channel feature hosting the Rosie massive sulphide mineralisation. All three holes intercepted highly encouraging nickel sulphide mineralisation and a four hole follow-up program commenced in January. The mineralisation is still considered open in most directions and the deposit requires substantial drilling in the coming periods to evaluate it effectively. The results for the initial three holes were as follows;

**Hole TBDD099 (Hole A) intersected downhole intervals of;**

- 5.58m @ 1.54% Ni, 0.44% Cu, 0.04% Co and 2.32g/t 6PGE's from 470.42m including;
- 4.00m @ 1.80% Ni, 0.51% Cu, 0.05% Co and 2.82g/t 6PGE's from 471.00m.

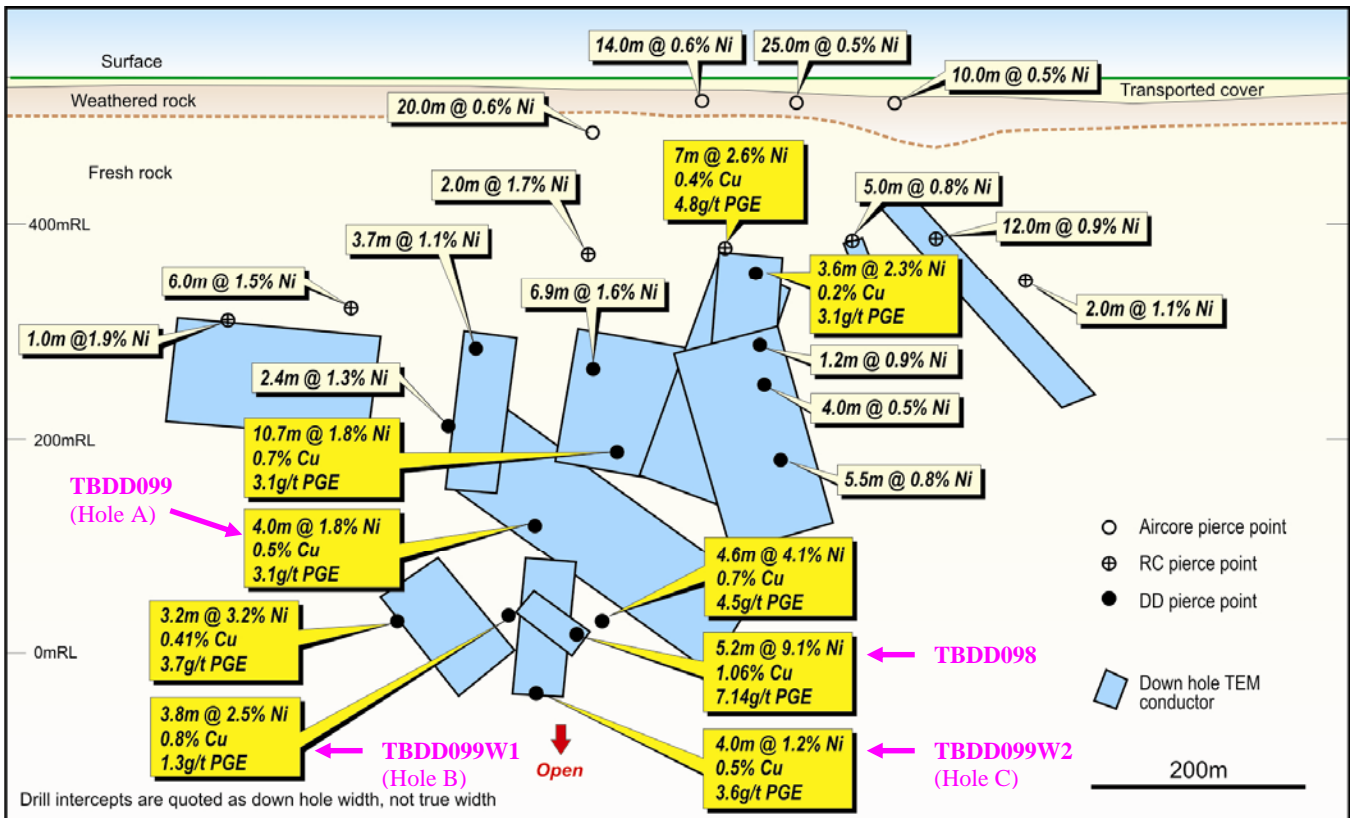
**Hole TBDD099W1 (Hole B) intersected downhole intervals of;**

- 5.00m @ 2.04% Ni, 0.61% Cu, 0.06% Co and 1.09g/t 6PGE's from 550.00m including;
- 3.83m @ 2.48% Ni, 0.75% Cu, 0.07% Co and 1.21g/t 6PGE's from 551.17m and a higher grade interval of;
- 1.20m @ 4.73% Ni, 1.10% Cu, 0.15% Co and 2.99/t 6PGE's from 552.52m.

**Hole TBDD099W2 (Hole C) intersected downhole intervals of;**

- 4.03m @ 1.21% Ni, 0.52% Cu, 0.04% Co and 3.63g/t 6PGE's from 609.87m including;
- 2.01m @ 1.67% Ni, 0.57% Cu, 0.05% Co and 4.74g/t 6PGE's from 610.99m and a higher grade interval of;
- 1.05m @ 2.26% Ni, 0.33% Cu, 0.07% Co and 4.43g/t 6PGE's from 610.99m.

The mineralisation intercepted was predominantly disseminated and breccia style with minor massive sulphide encountered in TBDD099W1. The style of mineralisation is suggestive of remobilized sulphides possibly flanking a mineralised channel position. Down hole TEM logging was able to be completed and modeled from all three holes and indicate that the strongest mineralisation in the immediate area is located between TBDD099W1 and TBDD098 and plunges to the south-east (Figure 6). The current four hole program will target up and down dip positions to the south-east of TBDD098.



**Figure 6 - Duketon JV – Rosie Prospect longitudinal projection showing significant drill intercepts, down-hole TEM conductors and the initial target areas of the current drill program.**

The current drilling program if effective is a precursor of a larger drilling and scoping study into the economic parameters of a mining project comprising an underground mine at Rosie and an adjacent open pit mine at C2. Scoping study activities completed to date include;

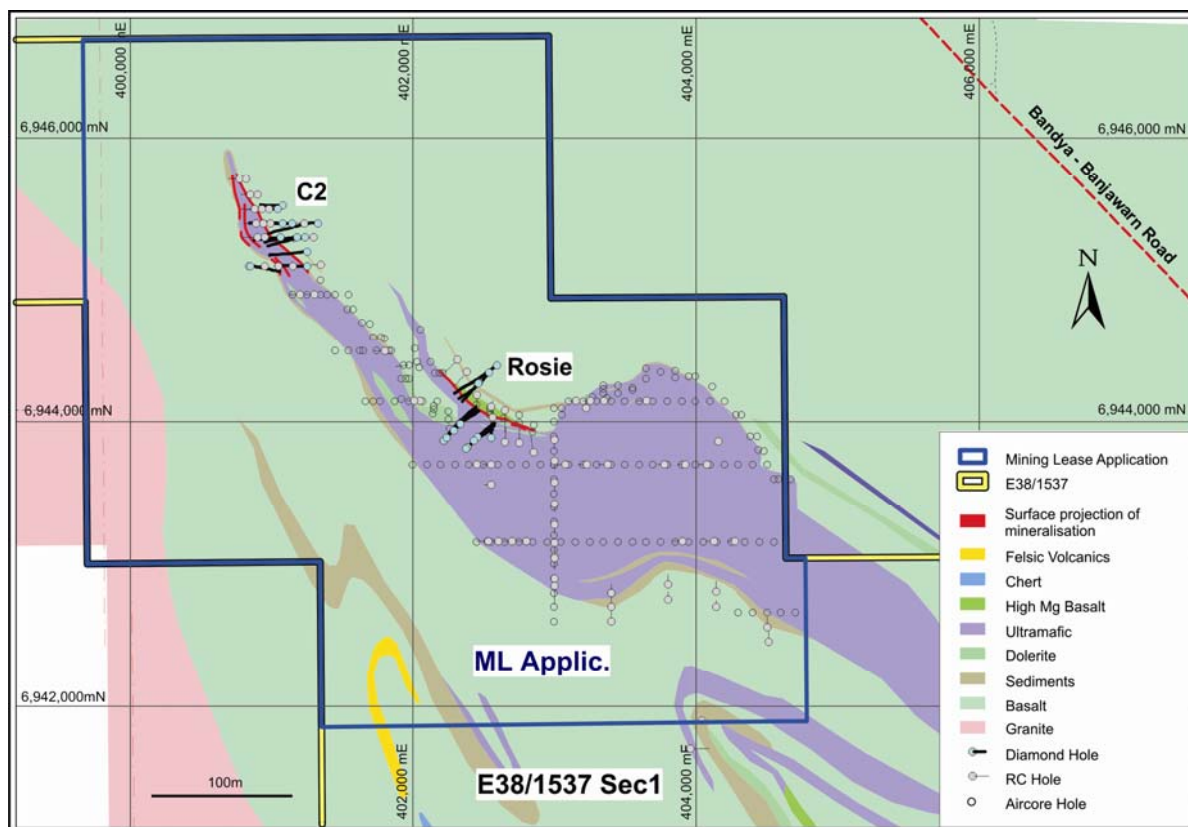
- Completion of a flora survey as part of an Environmental Baseline Study;
- POW approvals for resource drilling at Rosie and C2;
- Exploration base camp approvals;
- Water extraction license;
- Engagement of Aboriginal Heritage consultants and preparation for an Aboriginal heritage survey to commence in October.

In addition to this, preliminary mineralogical studies to aid future metallurgical test work were completed in the September quarter and demonstrated favourable metallurgical parameters.

As announced to the ASX on the 22<sup>nd</sup> of November 2010, South Boulder together with Independence received notification from the DMP that Mining Lease (M52/1252) over the C2 and Rosie Prospects was granted on the 19<sup>th</sup> of November. This is a significant milestone for the Duketon JV partners and is a necessary step in completing a Bankable Feasibility Study (Figure 7).

The massive nickel sulphide mineralisation intersected in hole TBDD098 has an ultramafic hanging-wall and sediment-free basaltic footwall, and is interpreted to represent a classic Komatiitic lava channel. However, the high copper, cobalt and platinoid assays are atypical of known lava channel nickel sulphides in Western Australia.

The mineralisation discovered thus far at Rosie was not detectable using conventional surface TEM techniques however IGO proprietary DHTM (downhole) methods have proven to be a highly effective tool in targeting massive sulphide mineralisation. The potential for further mineralisation is supported by DHTM survey results from a number of holes as shown in Figure 6 and these will be the subject of further interpretation and testing in the coming periods. At the time of writing this report, no specific details of the timing of the larger resource drilling program or the regional exploration work is available to South Boulder. Further information will be provided to the market when it comes to hand.



**Figure 7 - Rosie and C2 Deposit Mining Lease Application over interpreted solid geology and drill plan.**

### The German Well Prospect

The German Well prospect covers an ultramafic unit located on the eastern flank of the project area towards the northern end of E38/1825. Previous work by IGO has identified a TEM anomaly in close proximity to highly anomalous geochemistry in aircore drilling (max 0.43% Ni, 306ppm Cu, 55ppb Pt+Pd).

An RC hole (GWRC001: mNorth – 69417700, mEast – 442120, Dip - -60, Azimuth - 90) was drilled to 180m and was designed to test the anomaly. Minor zones containing up to 1-2% disseminated sulphides were intersected. The sulphides were recognised to be pyrite-pentlandite and chalcopyrite. Rock types intersected included diorite, dolerite/basalt and a medium grained pyroxenite which contained the sulphides.

Composite 4m assays were received and intercepted;

- 16m @ 0.13% Ni, 170ppm Cu and 102ppm Co from 164-180m including;
- 4m @ 0.18% Ni, 414ppm Cu and 130ppm Co from 176-180m (End of Hole).

One metre split samples are currently outstanding and are expected in the current period. It is currently thought that the results do not explain the TEM anomaly.

### The Robinson Prospect

The Robinson Prospect is located within E38/1511 between the Camp Oven and Bulge Prospects. Ground TEM geophysical surveys were completed over 11 strike km of partially covered ultramafic stratigraphy. A total of 93 line km of data was collected, identifying 6 bedrock conductors.

Five of these bedrock conductors are considered to be indicative of sedimentary horizons. The sixth conductor ("Anomaly B") is closely associated with a magnetic anomaly and is considered to be a priority exploration target.

*Note: Most tables, figures and text relating to the DNJV have been provided courtesy of Independence.*

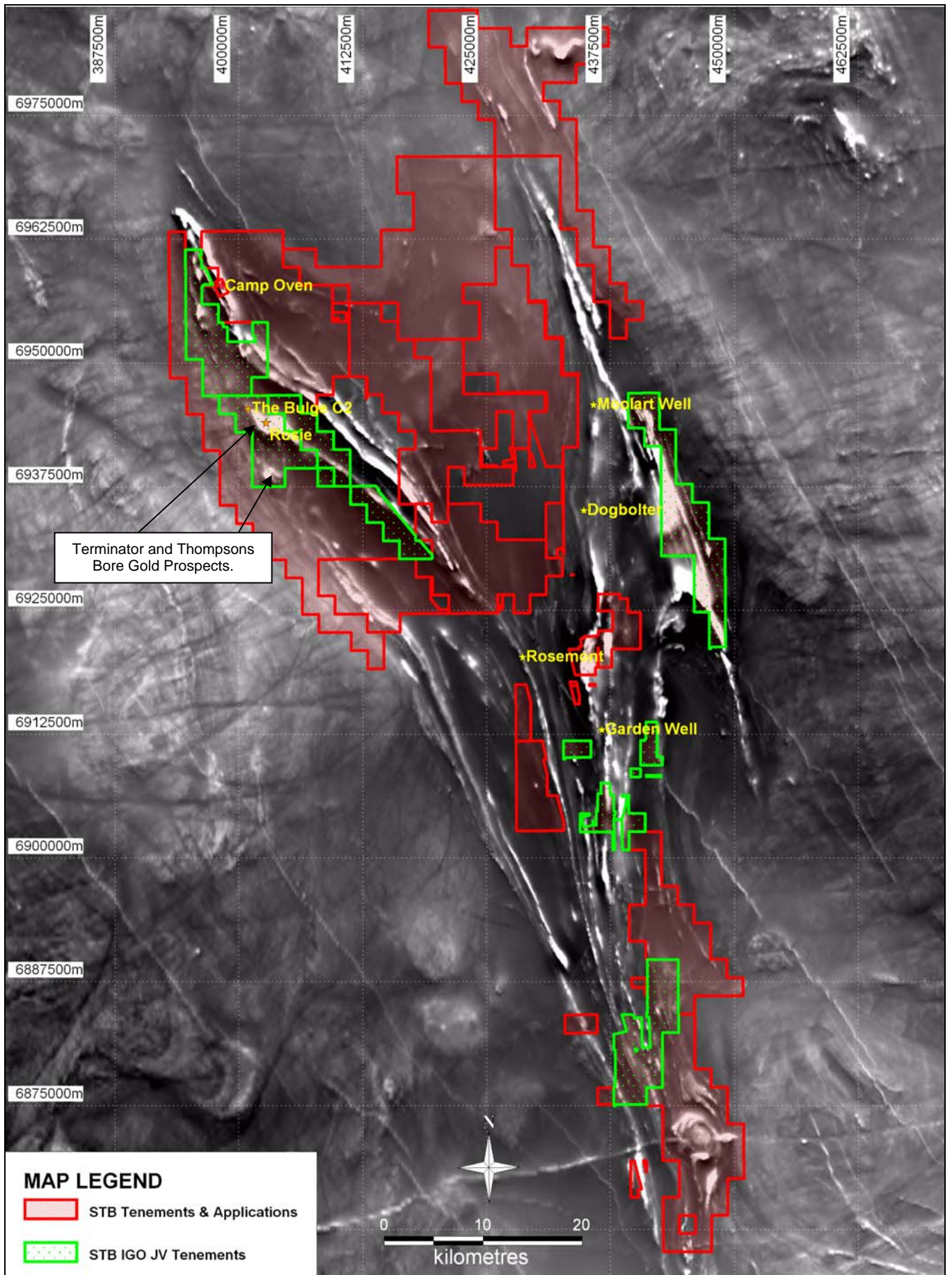


Figure 8 – Duketon Project showing Duketon Nickel JV and Duketon Gold Project tenements.

## **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 8).

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 +4M ounces of unmined gold resources currently defined to date within the belt. In addition the +1.5M ounce Moolart Well Gold Project is currently being developed by Regis Resources NL "Regis" (ASX: RRL). Once operational this will be the only mining operation in the Duketon Belt. The recent developments in the belt announced by Regis and A1 Minerals (ASX: AAM) are under consideration and will likely have a very positive impact on the future of the Duketon Belt.

The Achaean Duketon Greenstone Belt is located ~ 80kms north of Laverton in Western Australia and is dominated by a broad, complex north-northwest trending fold structure known as the Erlistoun Syncline (Figure 9). 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. These felsic volcanics are considered highly prospective and underexplored for base metal mineralisation.

The western limb of the Erlistoun Syncline is formed by a sequence of mafic and ultramafic volcanics and intrusives, epiclastic and chemical sediments, and minor felsics known as the Bandy Mafics. To the west the Bandy 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.

### **Terminator Prospect**

The Terminator Gold Prospect was discovered during a geochemical aircore drilling program on E38/1537 during September 2009. The Prospect is located approximately 1.4km south of the Bulge C2 Nickel Prospect (Figure 8 & 9)).

Recent 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. Refer to March 2010 quarterly report for recent drilling intercepts.

During the period, work was focused on targeting extensions to known mineralisation and gaining a better understanding of the structural complexities of the deposit. It is intended to conduct further RC drilling at Terminator and the Terminator extended area in a combined Duketon Regional Gold exploration program. Details of timing and approvals of the program are currently being finalised.

### **Thompson's 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.

As with the Terminator Prospect a follow up drilling program is in the planning stages combined with the Duketon Regional Gold exploration program. Plans will be released to market once they are finalised and approved.

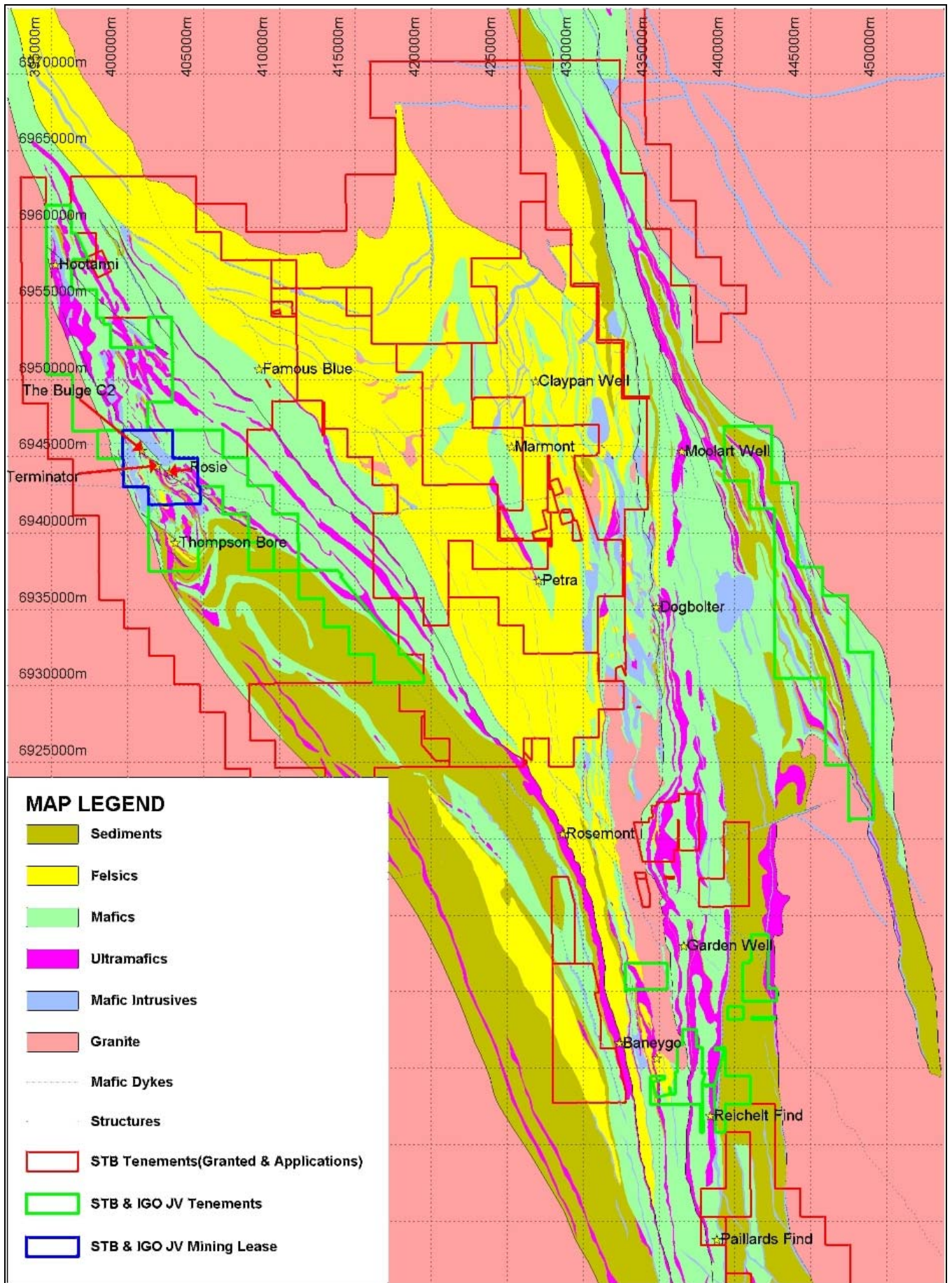


Figure 9 - Duketon Project tenements over Duketon Greenstone Belt geology.

## Regional Prospects

During the period data compilation, design of a regional closed spaced aeromagnetic survey was completed. The survey is due to commence in mid February and is designed to better define geological units along strike and proximal to known gold occurrences. Once the data is received it will be assessed with available geology, geophysical and geochemical datasets in order to prioritise areas for testing with RAB or aircore drilling.

Previous reconnaissance sampling in regional areas of the Duketon Gold Project has identified numerous new targets. These targets are planned to be drill tested within the next 6 months as part of the Duketon Regional Gold exploration program. South Boulder are encouraged by the recent competitor drilling activity by Regis resources NL (ASX: RRL) who have made a recent gold discovery at Garden Well (+1.2m ounces) and are developing the +1.5m ounce Moolart Well deposit. South Boulder hold ground in along strike positions to the Garden Well discovery and adjacent to the Moolart well deposit.

All of the following prospects are under going detailed evaluation, data compilation and will be flown with closed spaced magnetic survey in February.

The Mistake South Prospect is located approximately 10kms south along strike from the Garden Well Prospect and immediately south of the Eristoun/Mistake deposits (Figure 10).

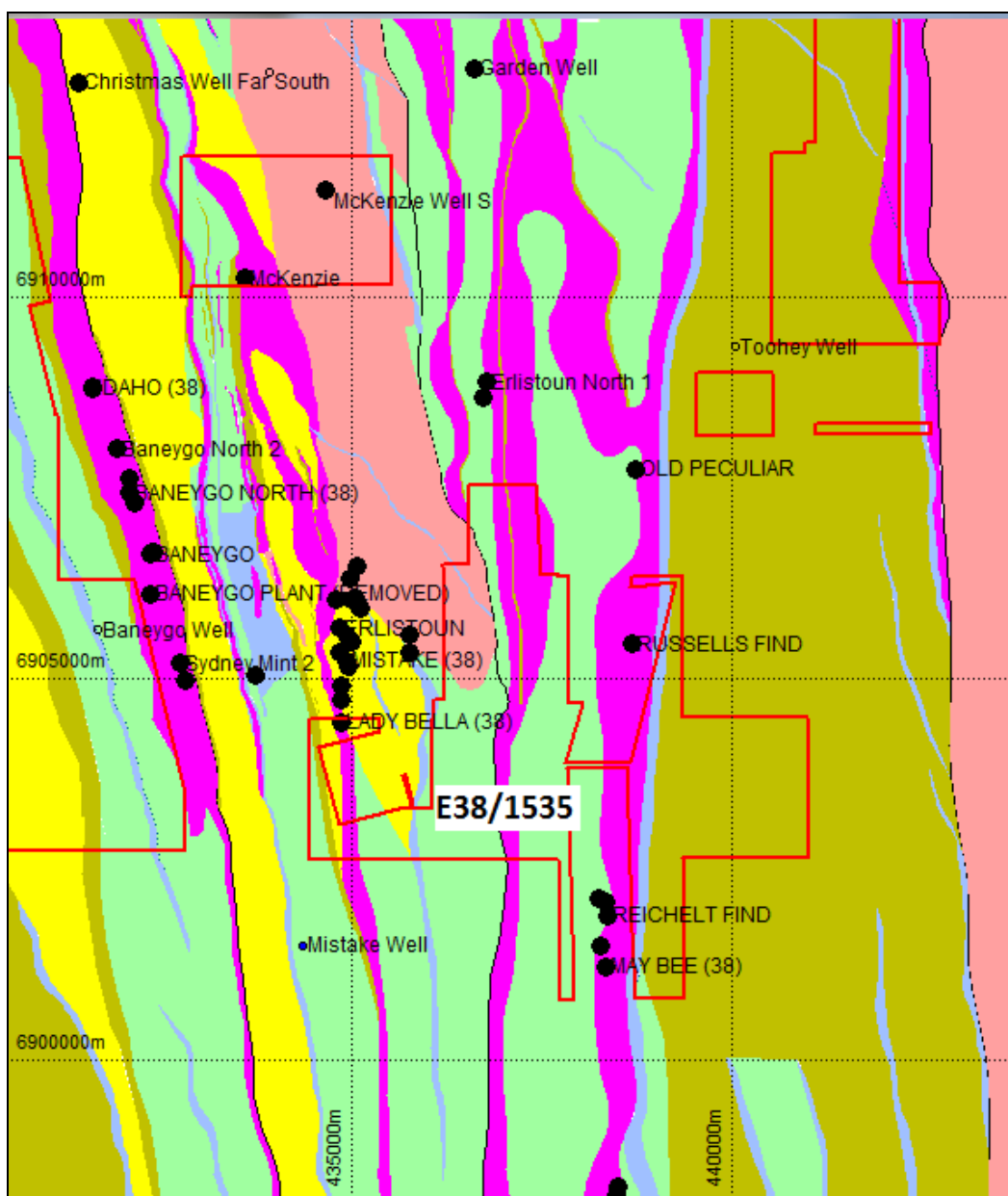
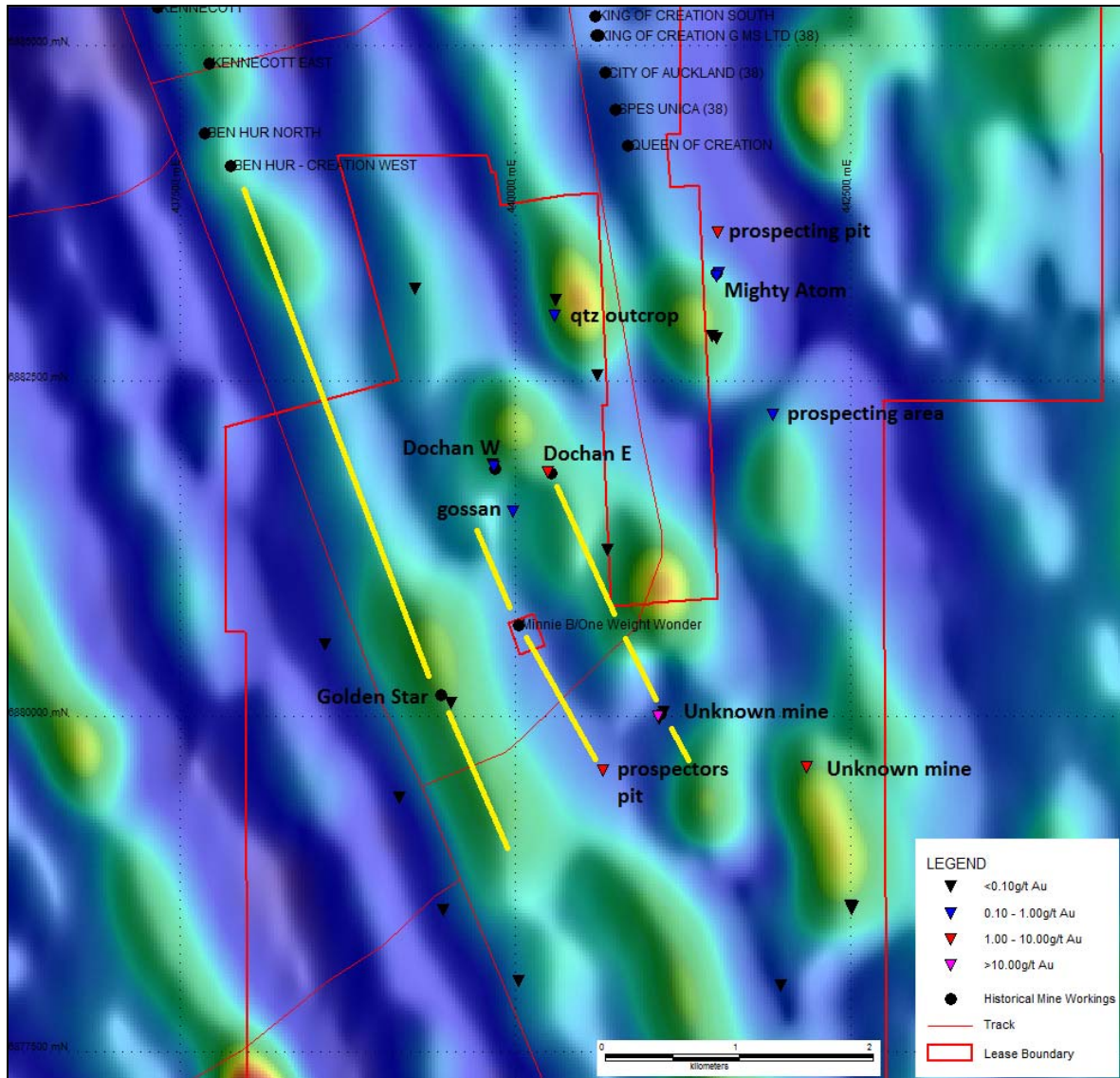


Figure 10 - Geology of the area surrounding E38/1535, including Garden Well to the north (green =mafics, pink=ultramafics, yellow=felsics, red=granite, blue=mafic intrusives, brown=sediments).

The Golden Star Prospect is located a further 25km south along strike of the Mistake Prospect. Reconnaissance work has located the historical workings and drill hole locations of the Golden Star and Dochan deposits in E38/1535. Preliminary three dimensional modelling of these deposits have shown that the deposits are open along strike and at depth. South Boulder is currently planning an aircore drilling program for this exploration license.

Historical RC drill intercepts Golden Star (Figure 10) include 20m @ 5.26g/t, 14m @ 2.46g/t and 6m @ 4.32g/t Au. Historical RAB intercepts at Dochan include 8m @ 2.24g/t, 4m @ 2.92g/t and 1m @ 22.88g/t Au.



**Figure 11 - Golden Star Prospect.**

Another prospective gold project is the Moolart Well West Prospect (Claypan Well on Figure 9) which is located immediately west of Regis Resources' Moolart Well Gold Mine. This area covers sequences of basic and ultrabasic rocks and includes the north-trending Duketon Fault.

This entire area is not suitable for soil sampling, as discovered by Carpentaria Exploration when they held the area in the 1970s, but the majority is suitable for lag sampling. Carpentaria geologists noticed several E-W trending faults in the field, which have a displacement of ~200m. Several gossans in the area returned assays anomalous for gold.

Regis Resources noted at Moolart Well that gold occurs in the oxide zone of intrusives as a laterite zone of pisolites in clay (0-4m deep), as dipping oxide lodes following preserved quartz-bearing shears (from 20-70m deep), as well as a sub-horizontal supergene horizon at the base of oxidation. They have only conducted minimal drilling into fresh rock to test primary mineralisation.

Previous lag sampling by STB in the Moolart Well West area has delineated several gold anomalies (~20ppb). These show strong structural control, trending NNW along shears and faults. These anomalies cross the Duketon

Fault along these structures. However, if mineralisation is indeed similar to Moolart Well, the majority of a deposit may have no geochemical signature at all. This prospect will be tested by extensive RAB drilling as part of the Duketon Regional Gold exploration program.

## PORTFOLIO DEVELOPMENT

South Boulder has a policy of constantly 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 potash and phosphate exploration portfolio comprising the Lake Disappointment Potash, The Cardabia Phosphate 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\$4.4m. The portfolio is under regular periodic review in order to determine opportunities for divestment to add to funds for working capital. Over the last 36 months as equity markets have been depressed it has been difficult to justify divestment. Investor appetite and overall market conditions appear to be improving and there is likely to be further opportunities to realise better value for South Boulder shareholders.

During the period 495,000 IMX Resources shares were sold and 200,000 Buxton Resources Ltd shares were purchased for net proceeds of \$324,000. In addition 1,016,000 shares were granted to South Boulder in Lithex Resources Ltd (Lithex). Lithex is a tin, tantalum and rare earth exploration company planning to list on the ASX in the near future.

South Boulder holds a number of shares and options in ASX and TSX listed companies currently valued at ~ AUD \$4.4m (Table 3).

Company Name	Stock Exchange	No of fully paid Shares	20c/25c Options	Option Expiry Date
Montezuma Mining Company Ltd	ASX	3,975,000	1,037,500	31/08/2011
Buxton Resources Limited	ASX	1,610,000	750,000	30/06/2012
Avonlea Minerals Limited	ASX	400,000		
Uranex NL	ASX	800,000		
Continental Nickel	TSX	121,200		
Auvex Resources Ltd (25c)	Private		1,000,000	
Lithex Resources Ltd	Private	1,016,000		

**Table 3 – Current equities owned by South Boulder Mines Limited.**

### The Lake Disappointment East Potash Project

During the period no work was carried out at the Lake Disappointment East project (E45/3122) due to uncertainty over protracted negotiations between the Western Desert Lands Council (WDLAC) and another company is the beneficial owner of the Lake Disappointment potash resource located immediately west of South Boulder's Project.

During the period the tenement holding was reduced and is now made up of tenement applications E45/3259, E45/3262 and E45/3263. South Boulder plans to progress these tenements to grant and then commence exploration.

### **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.

### **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 ~1,642km<sup>2</sup> (ELA08/2005, ELA08/2121 and ELA08/2151) and is prospective for nodular phosphate.

### **Corporate**

During the period as announced on the 13<sup>th</sup> of December 2010, South Boulder completed an above market placement of 3.5 million shares at a price of \$2.00 per share for \$7 million before costs to Sprott Asset Management LP, for and on behalf of certain Sprott Funds and managed accounts. This funds were received in early January and are not shown on the Quarterly Cashflow Report to the ASX as lodged on the 28<sup>th</sup> of January 2011.

In addition \$1.13 million was raised from the conversion of 4,620,000 South Boulder share options. The total number of shares on issue at the end of the reporting period is 75,685,688. The total number of options on issue with conversion prices of between \$0.20 - \$0.75 is 25,860,000.

The Company is highly leveraged to further exploration success and is well funded to continue the rapid advancement of its key projects. Further to this a number of options to realise better value for the key potash assets are being examined. Management believe that the Colluli Project is significantly undervalued when one considers the uniqueness of the deposit particularly relating to the shallow depth to mineralisation and the key infrastructure aspects.

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.

## APPENDIX A

Hole	East	North	RL	From	To	Thickness	Stratigraphy	Lithology
	(m)	(m)	(m)	(m)	(m)	(m)	Unit	
Col-006	643853	1589912	-119	0.00	48.00	48	Clastics	Clastics
				48.00	48.32	0.32	Marker Bed	Rock Salt, Anhydrite
				48.32	54.56	6.24	Sylvite	Sylvinitite
				54.56	55.60	1.04	Upper Carnallite	Carnallitite
				55.60	70.60	15.00	Bischofite	Bischofite
				70.60	78.21	7.61	Lower Carnallite	Carnallitite
				78.21	87.49	9.28	Kainite	Kainitite
				87.49	91.60	4.11	Lower Rock Salt	Rock Salt
Col-007	643708	1591828	-117	0.00	24.50	24.50	Clastics	Clastics
				24.50	25.37	0.87	Sylvite	Sylvinitite
				25.37	38.29	12.92	Bischofite	Bischofite
				38.29	46.06	7.77	Lower Carnallite	Carnallitite
				46.06	55.51	9.45	Kainite	Kainitite
				55.51	60.10	4.59	Lower Rock Salt	Rock Salt
Col-008	642696	1592083	-120	0.00	15.00	15.00	Clastics	Clastics
				15.00	21.63	6.63	Upper Rock Salt	Rock Salt
				21.63	22.22	0.59	Marker Bed	Rock Salt, Anhydrite
				22.22	24.65	2.43	Sylvite	Sylvinitite
				24.65	32.45	7.80	Bischofite	Bischofite
				32.45	38.94	6.49	Lower Carnallite	Carnallitite
				38.94	48.42	9.48	Kainite	Kainitite
48.42	52.60	4.18	Lower Rock Salt	Rock Salt				
Col-009	643367	1593178	-113	0.00	15.00	15	Clastics	Clastics
				15.00	18.00	3.00	Upper Rock Salt	Rock Salt
				18.00	23.97	5.97	Marker Bed	Rock Salt, Anhydrite
				23.97	24.63	0.66	Sylvite	Sylvinitite
				24.63	24.85	0.22	Bischofite	Bischofite, Carnallite, Sulphate
				24.85	26.32	1.47	Lower Carnallite	Carnallitite, Sulphate,
				26.32	36.55	10.23	Kainite	Kainitite
36.55	40.60	4.4	Lower Rock Salt	Rock Salt, clay				
Col-010	644278	1592455	-118	0.00	21.60	21.60	Clastics	Clastics
				21.60	21.93	0.33	Marker Bed	Rock Salt, Anhydrite
				21.93	24.98	3.05	Sylvite	Sylvine, rock salt
				24.98	25.25	0.27	Upper Carnallite	Rock Salt, Carnallite, Sulphate
				25.25	28.11	2.86	Bischofite	Bischofite, Carnallite, Sulphate
				28.11	41.84	13.73	Lower Carnallite	Rock Salt, Carnallite, Sulphate
				41.84	56.03	14.19	Kainite	Kainite, rock salt, Sulphate
				56.03	60.60	4.57	Lower Rock Salt	Rock Salt
Col-011	645288	1589934	-119	0.00	27.00	27.00	Clastics	Clastics
				27.00	38.17	11.17	Upper Rock Salt	Rock Salt, Anhydrite
				38.17	46.60	8.43	Marker Bed	Rock Salt, Sulphate, Clay
				46.60	48.83	2.23	Upper Carnallite	Rock Salt, Carnallite, Sulphate
				48.83	63.98	15.15	Bischofite	Bischofite, Carnallite,

								Sulphate
				63.98	76.74	12.76	Lower Carnallitite	Rock Salt, Carnallite, Sulphate
				76.74	88.45	11.71	Kainitite	Kainite, rock salt, Sulphate
				88.45	93.10	4.65	Lower Rock Salt	Rock Salt
<b>Col-012</b>	645881	1588680	-112	0.00	39.00	39.00	Clastics	Clastics
				39.00	57.33	18.33	Upper Rock Salt	Rock Salt, Anhydrite
				57.33	64.80	7.47	Marker Bed	Rock Salt, Sulphate, Clay
				64.80	64.93	0.13	Upper Carnallitite	Rock Salt, Carnallite, Sulphate
				64.93	75.35	10.42	Bischofitite	Bischofitite, Carnallite, Sulphate
				75.35	90.60	15.25	Lower Carnallitite	Rock Salt, Carnallite, Sulphate
				90.60	102.98	12.38	Kainitite	Kainite, rock salt, Sulphate
				102.98	106.60	3.62	Lower Rock Salt	Rock Salt
<b>Col-013</b>	642179	1592673	-118	0.00	15.00	15.00	Clastics	Clastics
				15.00	24.55	9.55	Upper Rock Salt	Rock Salt, Anhydrite
				24.55	25.90	1.35		Rock Salt, Kieserite
				25.90	29.07	3.17	Upper Carnallite	Kieserite (intact)
				29.07	30.56	1.49	Lower Carnallitite	Carnallite, Kainite, Sulphate
				30.56	33.78	3.22	Kainitite*	Kainite, rock salt, Sulphate
				33.78	37.60	3.82	Lower Rock Salt	Rock Salt
<b>Col-014</b>	642986	1593545	-117	0.00	15.00	15.00	Clastics	Clastics
				15.00	19.60	4.60	Upper Rock Salt	Rock Salt, Anhydrite
				19.60	30.40	10.80	Kainitite	Kainite, rock salt, Sulphate
				30.40	34.60	4.20	Lower Rock Salt	Rock Salt, clay
<b>Col-015</b>	643596	1589355	-115	0.00	27.00	27.00	Clastics	Clastics
				27.00	58.81	31.81	Upper Rock Salt	Rock salt, Sulphate,
				58.81	63.00	4.19	Marker Bed	Rock Salt, Anhydrite, Clay
				63.00	65.08	2.08	Upper Carnallitite	Rock Salt, Carnallite, Sulphate
				65.08	75.94	10.86	Bischofitite	Bischofitite, Carnallite, Sulphate
				75.94	82.31	6.37	Lower Carnallitite	Rock Salt, Carnallite, Sulphate
				82.31	91.34	9.03	Kainitite	Kainite, rock salt, Sulphate
				91.34	94.60	3.26	Lower Rock Salt	Rock Salt, clay
<b>Col-016</b>	643683	1593710	-115	0.00	16.30	16.30	Clastics	Clastics
				16.30	18.06	1.76	Upper Rock Salt	Milky white, bleached sulfate
				18.06	24.79	6.73	Kainitite	Kainite, rock salt, Sulphate
				24.79	28.60	3.81	Lower Rock Salt	Rock Salt
<b>Col-017</b>	642638	1590227	-118	0.00	18.00	18.00	Clastics	Clastics
				18.00	45.96	27.96	Upper Rock Salt	Rock Salt, sulphate
				45.96	55.20	9.24	Sylvinitite	Sylvite, rock salt
				55.20	60.72	5.52	Carnallitite	Carnallite, sulphate
				60.72	67.98	7.26	Kainitite	Kainite, rock salt
				67.98	72.10	4.12	Lower Rock Salt	

Preliminary geological logs of diamond drill holes Col-006 -017 from the Colluli Potash Project, Eritrea.

## 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 link [www.southbouldermine.com.au](http://www.southbouldermine.com.au).

## About South Boulder Mines Ltd

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

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

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.

The high-grade Rosie Prospect is currently defined over a strike length of 750m and a down dip extent of 400m. The C2 Prospect comprises three zones defined over a strike length of up to 700m and a down dip extent of up to 300m. Mineralisation at C2 is dominated by disseminated mineralisation and includes past intercepts up to **52.0m @ 0.92% Ni including 37.0m @ 1.05% Ni**. A Mining Lease was granted over the Rosie and C2 deposits on the 19<sup>th</sup> of November. The Mining Lease comprises a total of 19.13km<sup>2</sup>.

## More information:

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### Disclaimer

This ASX release has been compiled by Lorry Hughes using information on potash exploration results and potash Mineral Resource Estimates supplied by South Boulder Mines Ltd under supervision by Ecosplan. 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.

The potential quantity and grade of the Colluli exploration target is conceptual in nature and there has been insufficient exploration to define a Mineral Resource (outside the area in Figure 1) and it is uncertain if further exploration will result in the determination of a Mineral Resource (outside the area in Figure 1).

With respect to non-potash results, this ASX release has been compiled by Lorry Hughes using information on exploration results supplied by South Boulder and in the case of the Duketon Nickel JV, 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 is a geologist and he has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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.

### 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 at the Technical University of Clausthal, who have extensive experience in analysis of salt rocks and brines. For analysis ion chromatography of a dissolved aliquot of the samples was used to determine the amounts of the typical elements (Mg, Ca, Na, K, Cl, SO<sub>4</sub>) in salt rocks. The insoluble content was determined by weighing of the dissolution residue of the dissolved aliquot. The chemical analysis was supported by X-ray powder diffraction to determine the salt minerals present within the sample. Check samples were analysed by Kali-Umwelttechnik GmbH Sondershausen, Germany utilising flame emission spectrometry, atomic absorption spectroscopy and ionchromatography. Kali-Umwelttechnik (KUTEC) Sondershausen have extensive experience in analysis of salt rock and brine samples and is certified according to DIN EN ISO/IEC 17025 by the Deutsche Akkreditierungssystem Prüfwesen GmbH (DAR).