



## QUARTERLY OPERATIONS REPORT THREE MONTHS ENDING 31 MARCH 2009

### HIGHLIGHTS

- **South Boulder successful with application for a new Eritrean potash project**
- **Further encouraging nickel exploration results from December quarter drilling from C2 Prospect drilling (Previously announced on 30<sup>th</sup> January 2009)**

### POTASH PROJECTS

As previously announced South Boulder for some time has been evaluating potash projects world wide with a view to acquisition or participation in projects that demonstrate the potential to be world class. During the quarter South Boulder was advised by the Department of Mines, Ministry of Energy and Mines, Eritrea that it has been successful in its application for an exploration license to explore for potash in the Danakil Depression, Eritrea.

The exploration license application covers a highly prospective area of the Danakil Depression surrounding the small settlement of Colluli, near the northern border of Ethiopia in the east of Eritrea and is located approximately 200kms southeast of the Eritrean capital, Asmara. The area has a long history of potash exploration dating back to the 1920's with more significant exploration campaigns conducted from 1958 – 1970. South Boulder understands that previous historic drilling has intersected potash, however precise details have not been located at present.

Formalisation and negotiation of an exploration agreement with the Ministry of Energy and Mines is currently underway including the determination of the tenement boundary. It is expected this will be completed in the next quarter. South Boulder will be in a position to provide further details upon grant of the license, which is expected to occur before the end of the June quarter.



**Figure 1: Approximate Location of Eritrean Exploration License Application**



## **PHOSPHATE PROJECTS**

### ***Cardabia – 1,900km<sup>2</sup>***

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 ~1,900km<sup>2</sup> of contiguous exploration license applications and contains extensive phosphate-rich nodules hosted within contact zones between the Gearle Siltstone and the Toolonga Calcilutite and the Toolonga Calcilutite and the Korojon Calcarenite.

The phosphate mineralisation was discovered by CRA Exploration Pty Ltd by aircore drilling across the White Peaks and Nabawarra synclines during 1989-90. It will be South Boulder's immediate exploration target to locate and test depressions along these synclines which are considered favourable for thicker and possibly economic accumulations of phosphate-rich nodules.

The vertical wide spaced aircore drilling (all <100m depth) conceptually tested the area on a nominal ~ 7kms x 3kms grid. Grades encountered in the +5mm fraction were up to 49% P<sub>2</sub>O<sub>5</sub> with numerous grades in the 25-30% range. Drill intersections were generally from 1-5m thick. The previous drilling provides an excellent knowledge base from which to plan future programs.

Additional to follow-up drilling, South Boulder is planning to complete some early stage bulk sampling and beneficiation test work. South Boulder believes that due to the coarsely dispersed nature of the mineralisation, the potential project economics may benefit from simple screening. The generally good location of the project (<100km from the coast and major roads) with respect to infrastructure is likely to benefit potential project economics.

It is anticipated that some tenements will be granted in 2009. Depending on global economic conditions work will focus on data compilation, geological targeting and strategic concepts. It is envisaged that aboriginal heritage consultation will be the first field based priorities to conduct prior to and immediately after grant dependant on the weather at that time.

### ***Southern Georgina Project (EL26380,EL25983,EL25982,ELA26768,ELA26769)- 4,112km<sup>2</sup>***

The 100% owned Southern Georgina Phosphate Project is located in the central east Northern Territory, approximately 450km east north-east of Alice Springs. The granted tenements were acquired for \$40,000 and the issue of 200,000 STB shares from Bralich Holdings Pty Ltd.

The tenements cover substantial extents of phosphate and base metal prospective Cambrian carbonate sequences. Elsewhere in the Georgina Basin (QLD and NT) significant phosphate deposits are hosted in Lower to Middle Cambrian marine carbonate and clastic sediments including mudstones, claystones and limestones. The deposits are generally formed by chemical and biological precipitation.

The area has been subject to sporadic exploration over the last 30 years including strata-bound Mississippi Valley Type base metal exploration conducted by CRAE (1970's), Carpentaria Exploration (1976-77), Agip Australia (1981-84) and MIM Exploration (1991). Additional to the phosphate and base metal prospectivity of the tenements, there are known occurrences of manganese as identified by previous explorers.

A number of discussions were held with third parties in regard to forming potential farm out joint ventures. No agreements were reached during the period.

### ***Central Georgina Project (EL's 26761,26763,26766,)- 1,800km<sup>2</sup>***

The 100% owned Central Georgina Phosphate Project is located in the central east Northern Territory, approximately 1,000km south east of Darwin. The tenements comprise 3 recently granted exploration licenses comprising ~1,800km<sup>2</sup>. The tenements cover substantial extents

of phosphate and base metal prospective Cambrian carbonate sequences as in the Southern Georgina project areas.

The tenements are located in close proximity to the known historic phosphate resources of Buchanan Dam, Alroy and Highland Plains. Other historic phosphate deposits in the general area are the large Wonarah and Arruwurra Deposits held by Minemakers Ltd.

Companies that have previously explored the areas for phosphorites between 1968-77 include IMC Development Corporation, Australian Geophysical Pty Ltd, Pickands Mather & Co, Minoil Services Pty Ltd and ICI Australia Ltd. Rio Tinto explored the Wonarah Deposits in 2001.

South Boulder is in the stages of acquiring and compiling the available exploration data from the project areas. It is not expected that any ground work will be completed until the 2008/2009 wet season has passed. After review, the previously held applications ELA 26762, 26765 and 26800 were withdrawn.

### ***QLD Georgina Project (EPM 17662, EPM 17663) – ~422km<sup>2</sup>***

The Lady Imogen Phosphate Project is located within the Queensland Georgina Basin approximately 110kms northeast of Mt Isa. The Project consists of exploration license applications EPM17662 and EPM17663 and cover ~422 km<sup>2</sup>. The projects are easily accessed by road from Mt Isa.

Both application areas have been subject to exploration for phosphate in the mid to late 1960's by Mines Exploration Pty Ltd and Continental Oil Company of Australia Pty Ltd. Exploration included broad spaced drilling which intersected significant phosphate mineralisation. The best vertical drill intercept was 7.9m @ 4.6% P<sub>2</sub>O<sub>5</sub> from 51m depth. (The assay result is historic and was determined using atomic absorption spectroscopy by AMDEL Laboratories Pty Ltd at the time of exploration)

South Boulder intends to continue to compile and evaluate data prior to potential granting of the license in 2009.

## DUKETON NICKEL JOINT VENTURE

In April 2004 South Boulder signed a farm-out Joint Venture Agreement with Independence Group NL (ASX: IGO). Under the terms of the agreement IGO will farm-in to earn 70% of the nickel metal rights on tenements held by South Boulder within the Duketon Project. In addition, Independence agreed to spend a minimum of \$400,000 on 'in ground' exploration over the first two years of the joint venture. A bankable feasibility study (BFS) must also be completed within five years from grant of the individual tenements.

As previously reported on the 30<sup>th</sup> of January 2009 matrix and massive sulphides were intersected in diamond drilling at the Bulge C2 Prospect. The program defined a large untested off-hole DHTeM conductor located adjacent to TBDD073. It was also noted by IGO that sulphide grades appear to be increasing with depth. Highlights of the program completed in December 2008 included:

### HOLE TBDD071

- 20.16m @ 0.98% Ni (0.04% Cu, 0.08g/t Pt + Pd) from 159.84m.
- 14.11m @ 0.96% Ni (0.07% Cu, 0.75g/t Pt + Pd) from 248.89m including;
  - 2.26m @ 2.23% Ni (0.20% Cu, 2.10g/t Pt + Pd) from 248.89m and
  - 1.33m @ 2.20% Ni (0.13% Cu, 1.54g/t Pt + Pd) from 254.78m and
  - 0.42m @ 3.28% Ni (0.17% Cu, 1.57g/t Pt + Pd) from 255.69m.
- 4.5m @ 2.04% Ni (0.04% Cu, 0.36g/t Pt + Pd) from 267.33m including;
  - 0.67m @ 3.43% Ni (0.07% Cu, 0.93g/t Pt + Pd) from 267.33m and
  - 1.00m @ 2.99% Ni (0.06% Cu, 0.32g/t Pt + Pd) from 268.0m.

### HOLE TBDD073 (\*S.G. weighted assay result)

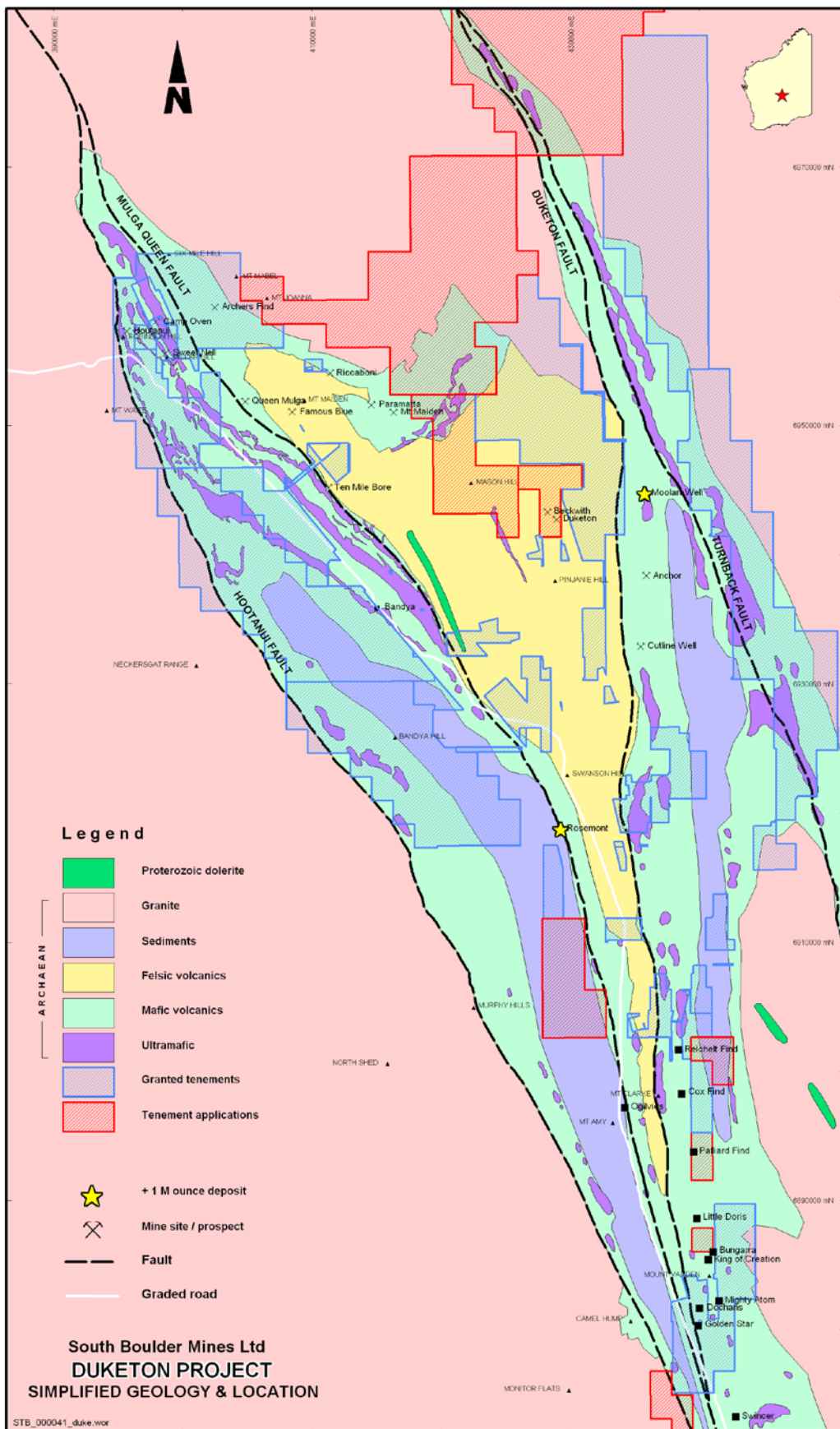
- \*23.0m @ 0.66% Ni (0.05% Cu, 0.45g/t Pt + Pd) from 200m including;
  - \*4.0m @ 1.31% Ni (0.19% Cu, 1.37g/t Pt + Pd) from 200m including;
  - \*1.27m @ 2.60% Ni (0.39% Cu, 2.46g/t Pt + Pd) from 202m including;
  - 0.69m @ 3.16% Ni (0.47% Cu, 2.35g/t Pt + Pd) from 202.31m.

No further drilling was completed during the quarter however a program of RC and diamond drilling is planned to test down dip/down plunge positions of the higher grade zones which in some cases are co-incident with down hole TEM conductors. Composited assay results including estimated true width intervals are shown in Table 1.

Hole No.	Easting (m)	Northing (m)	RL (m)	Azimuth (degr)	Dip (degr)	E.O.H. (m)	From (m)	To (m)	Interval (m)	True width (m)	Ni (%)	Cu (%)	Pt+Pd (g/t)
TBDD071	401078	6945400	550	270	-56	393	159.84	180.00	20.16	16.00	0.98	0.04	0.08
includes							159.84	167.00	7.16	5.68	1.16	0.05	0.08
includes							171.08	171.69	0.61	0.48	1.21	0.04	0.14
includes							175.00	177.15	2.15	1.98	1.25	0.04	0.09
							189.00	193.06	4.06	4.00	0.46	0.02	0.03
							248.89	263.00	14.11	14.00	0.96	0.07	0.75
includes							248.89	251.15	2.26	2.24	2.23	0.20	2.10
includes							254.78	256.11	1.33	1.32	2.20	0.13	1.54
							267.33	271.83	4.50	4.46	2.04	0.04	0.36
TBDD073	401045	6945500	550	270	-61	372	200.00	223.00	23.00	14.00	0.66	0.05	0.45
includes							200.00	204.00	4.00	2.43	1.31	0.19	1.36
includes							202.00	203.27	1.27	0.77	2.56	0.39	2.46
includes							213.00	223.00	10.00	6.09	0.57	0.02	0.10
includes							214.00	215.00	1.00	0.61	1.40	0.06	0.14

**Table 1 – Composited assay results included estimated true width intervals.**

Figure 3: Duketon Project tenements over Duketon Greenstone Belt geology.



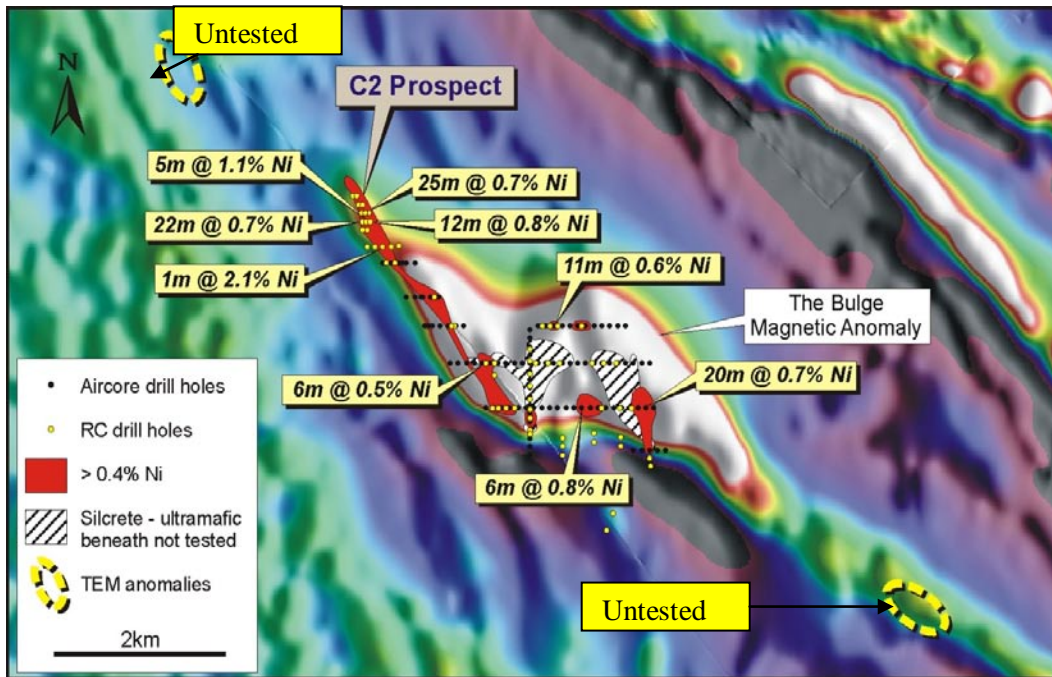


Figure 4 – The Bulge TMI Aeromagnetic Image with RC and AC Drilling and TEM anomalies (Recently completed diamond drilling not shown).

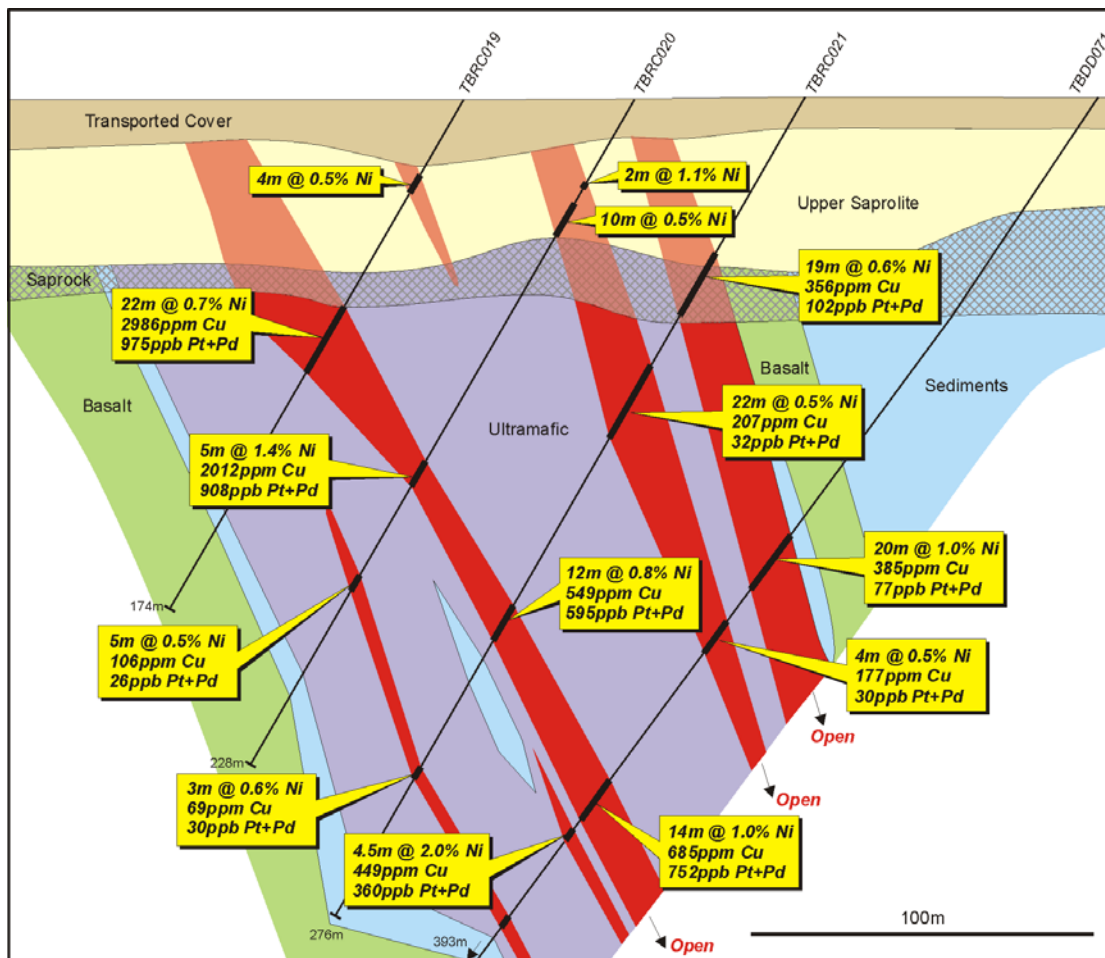


Figure 5 – The Bulge C2 Prospect 6,945,400mN Schematic cross-section showing significant drilling results.

## DUKETON GOLD PROJECT

South Boulders 100% owned Duketon Project is located north of Laverton in Western Australia. The Duketon Project totals approximately 1,800km<sup>2</sup> in area, making South Boulder the largest single land holder in the Duketon Greenstone Belt. The Duketon Project is highly prospective for gold, nickel sulphide and base metals.

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.

The Duketon 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 +3M ounces of unmined gold resources currently defined to date within the belt.

Numerous discussions have been held with third parties about the Duketon gold project, particularly as there is a "renewed" focus in the area due to the recent production based activities of Regis Resources NL and A1 Minerals Ltd. Both these company's projects are located in close proximity to South Boulder's ground and are planning to have mills operational within 18 months. South Boulder is in the process of determining the best way to maximise value for the project.

No field work was conducted during the period.

## URANIUM JOINT VENTURE – THATCHER SOAK

The Thatcher Uranium Joint Venture is located approximately 150km east of the Duketon Project within the Yamarna Greenstone Belt. . In September 2006, South Boulder entered into a Uranium JV with Uranex whereby Uranex could earn a 65% interest in the uranium rights on P38/3298 for the consideration of 275,000 fully paid Uranex NL (ASX: UNX) shares a deemed price of 59.5 cents. South Boulder retains a 35% free carry to the completion of a BFS.

During the period Uranex has not advised of any reportable exploration activity.

## CORPORATE

During the quarter the Company sold two exploration tenements EL28/1782 and ELA39/1316 to Anglogold Ashanti Ltd for a cash consideration of \$40,000.

In line with reductions in overall spending, South Boulder has been rationalising its exploration portfolio and undertaking rigorous review of all exploration plans and commitments. Discussions with a number of parties have been held during the period with a view to securing joint venture partners for some projects. No agreements have been entered into at this stage.

Company Name	Stock Exchange	No of fully paid Shares	20c Options	Option Expiry Date
IMX Resources NL	ASX	1,325,000		
Montezuma Mining Company Ltd	ASX	4,150,000	1,037,500	31/08/2011
Buxton Resources Limited	ASX	250,000	750,000	30/06/2012
Gold Aura Limited	ASX	1,000,000		
Avonlea Minerals Limited	ASX	400,000		
Continental Nickel	TSX	121,200		
Atlas Iron Limited	ASX	12,490		

South Boulder Mines Ltd ("South Boulder") (ASX:STB) currently has cash in the bank of approximately \$2.5 million and ASX and TSX listed equities worth approximately \$0.70 million.

**Canning Basin (ELA 04/1806, 04/1807, 04/1808, 45/3227) – 1,115km<sup>2</sup>**

It was decided that after detailed data evaluation and the expected expense of exploring for the deep potash horizons (1,000 – 2,000m deep) that the entire project would be relinquished.

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For more information visit the South Boulder Mines website [www.southbouldermines.com.au](http://www.southbouldermines.com.au)

30 APRIL 2009

*The Information in this report has been compiled by Lorry Hughes, and where relating to the Duketon Nickel JV the exploration results have been supplied by Tim Kennedy of Independence Group, who are the operator of the Duketon Nickel JV. Lorry Hughes and Tim Kennedy 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 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 and Tim Kennedy consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.*