

30 SEPTEMBER 2015 QUARTERLY REPORT HIGHLIGHTS

Honeymoon Uranium Project, South Australia

- Boss entered into an agreement with Uranium One Inc. to acquire the Honeymoon Project
- Honeymoon Project has resources (up to 2,100ppm) amenable to in situ leach processing
- Full mine infrastructure in place with 880,000lb pa solvent extraction plant already built
- One of only 4 fully permitted uranium projects in Australia
- Placed on care and maintenance in 2013 – never fully commissioned in period of low uranium prices
- Large 2,595km² tenement package with excellent exploration potential
- Company-transforming acquisition places Boss at the forefront of aspiring Australian uranium producers

Corporate

- Successful completion of oversubscribed non-renounceable rights issue and placement raises \$4.3 million to fund Honeymoon Project acquisition

Honeymoon Uranium Project

Boss Resources Ltd (Boss or the Company) announced the agreement to acquire the Honeymoon Uranium Project in South Australia via the acquisition of 100% of the issued share capital of Uranium One Australia Pty Ltd (ASX: 1 September 2015). Boss will form a SPV with Wattle Mining Pty Ltd (**Wattle**) whereby Boss will own 80% and Wattle will own 20% of Uranium One Australia Pty Ltd, with Boss holding an option to acquire Wattle's 20% post completion of a BFS.

The Honeymoon Uranium Project (“**Honeymoon**” or the “**Project**”) (Figure 1) is located in South Australia and is approximately 80km north-west from the town of Broken Hill near the SA / NSW border. The Project consists of 1 granted Mining Lease, 5 granted Exploration Licenses, 8 Retention Leases and 2 Miscellaneous Purposes Licenses. The Honeymoon mining infrastructure

is located on ML6109 and hosts one of the highest grade ISL Mineral Resources in Australia (1.44Mt @ 0.21% U₃O₈) and has produced some 335t of U₃O₈ from 2011 to 2012.

There are 2 main exploration regions: the Eastern Region (EL's 5215 and 5621) which hosts the Honeymoon, Brooks Dam and East Kalkaroo Resources; and the Western Region (EL's 5043, 5623 and 5622) which hosts the Goulds Dam and Billeroo deposits which have historical Mineral Resource estimates (Figure 4). The large tenement package covers approximately 2,595km² and has excellent exploration potential to identify further resources.

Native title agreements with respect to the exploration and mining activities have been signed with the local indigenous communities. Mining and uranium export permits (both State and Federal) are in place.

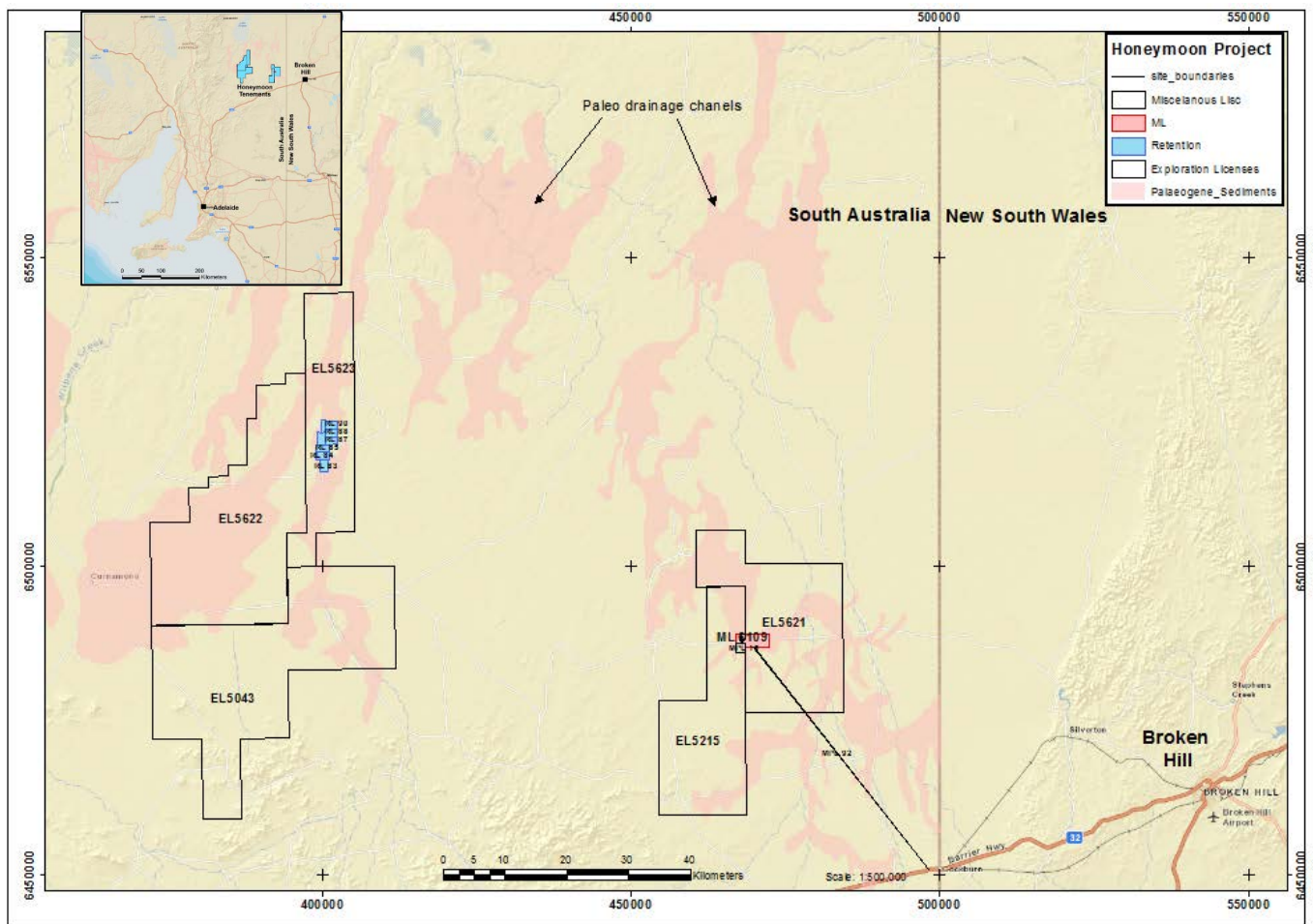


Figure 1: Honeymoon Uranium Project. The pink shaded regions represent palaeodrainage channels which have potential to host uranium mineralisation and are the focus of exploration efforts.



GEOLOGY

The Honeymoon Uranium Project is located in the southern part of the Callabonna sub-basin in South Australia. Uranium mineralisation within the project area is hosted by the Yarramba and Billeroo palaeochannels (Figure 2). These consist of Palaeogene age palaeovalleys filled by a sequence of inter-bedded sand, silt and clay (Figure 2). Thickness of the palaeochannels at Honeymoon deposit area reaches a maximum of 55m thick.

The uranium mineralisation represents a classic basal channel type sandstone-hosted uranium roll-front model. This model implies the movement of oxidised, uranium-bearing fluid through a largely reduced aquifer, with mineralisation occurring at the redox front of the fluid. A geochemical zonation is associated with the roll front, including oxidation of the sands upstream (orange and yellow limonite) and abundance of pyrite/marcasites and organic matter downstream. Mineralisation is associated with discreet accumulations of organic matter and pyrite within the palaeovalley sequence.

Distribution of the uranium accumulations within the palaeochannels is controlled by fluid pathways that have transported the dissolved uranium and the distribution of organic matter which served as reductants causing precipitation of uranium. Interplay of these two main factors has created a stacked geometry of the "uranium rolls" commonly distributed as elongate pods along the strike of the palaeovalley (Figures 1 and 2). This style of mineralisation is similar to that seen in the Shinarump, Monitor Butte and Moss Back members of the Upper Triassic Chinle formation in the White Canyon areas of the uranium mining districts of South Eastern Utah, USA.

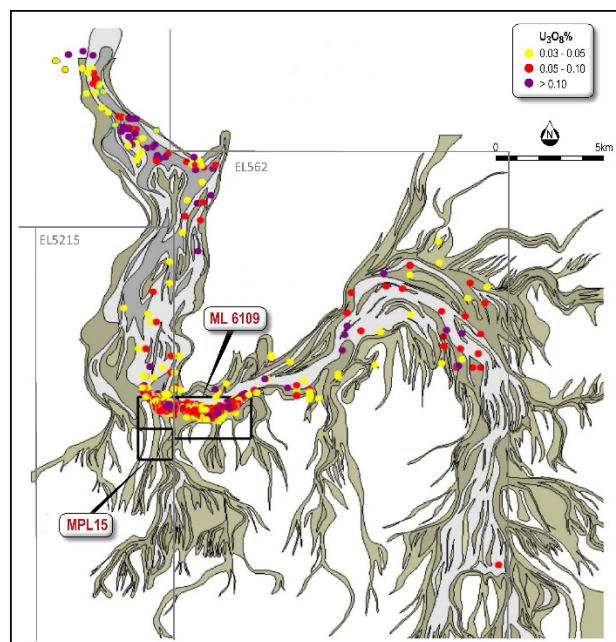


Figure 2: Geological map showing distribution of uranium mineralisation in southern part of the Yarramba palaeochannel. Shaded areas denote interpreted thicker conductive palaeo sedimentary packages, dots are the ore grade drill hole intersections, defined at 300ppm U_3O_8 cut off

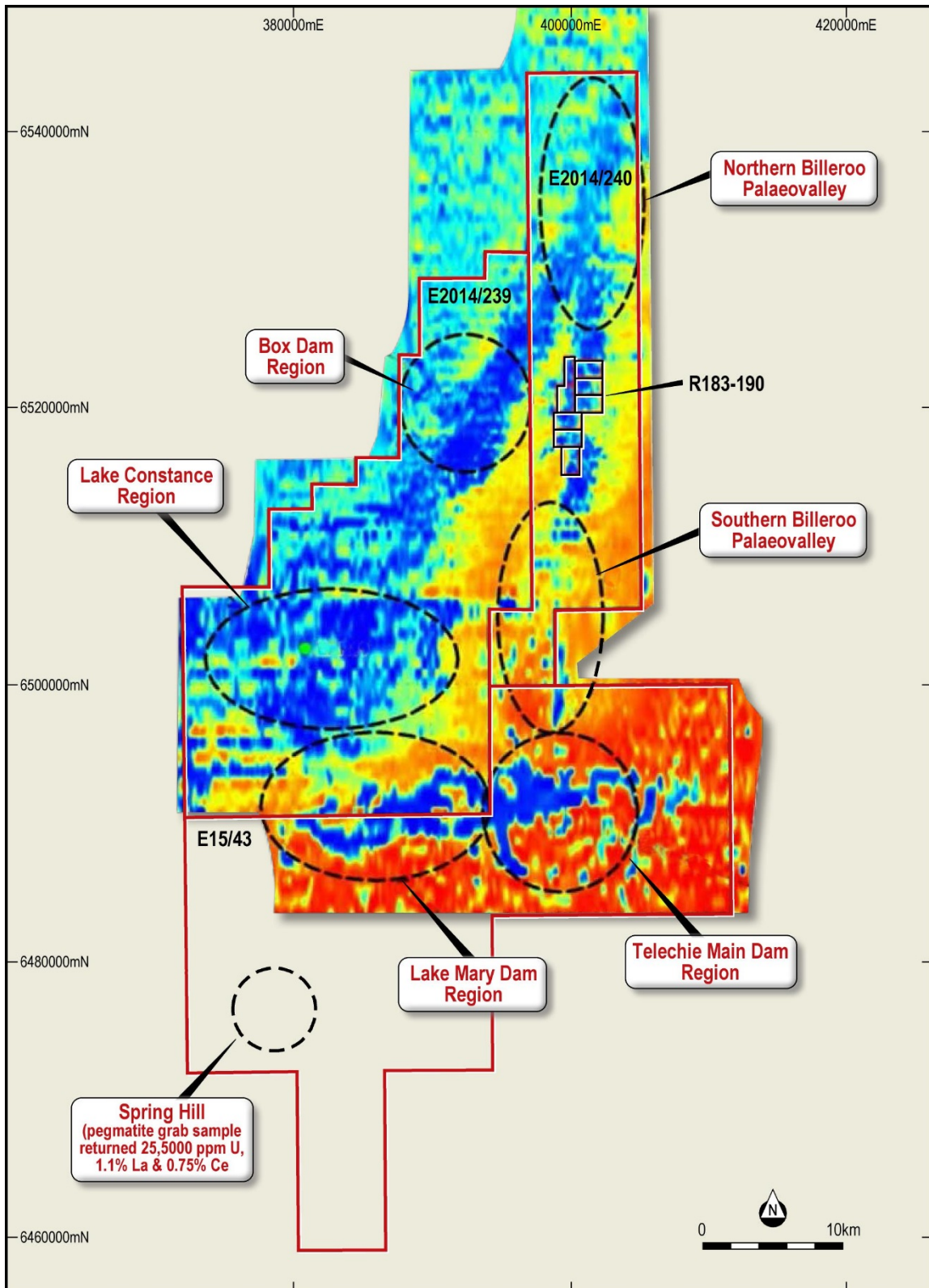


Figure 3: Conductivity map of Billeroo palaeochannel (Airborne EM data) that hosts Goulds Dam and Billeroo deposits showing priority target regions. Note: Blue regions indicate potential palaeochannel areas.

RESOURCES

The Mineral Resources for Honeymoon, Brooks Dam and East Kalkaroo are summarised in Table 1. In total, they contain 5.3Mt of mineralisation at the average grade of 0.14 % U₃O₈, which corresponds to 16.6Mlb (7,540 tonnes) of contained U₃O₈ above a 0.05% U₃O₈ lower cutoff.

All Mineral Resources are located below the water table at the depth of approximately 100m and hosted by the palaeochannel sedimentary sequence composed of weakly lithified permeable sands intercalated with clays. Previous hydro-geological test work including pilot production mining study have confirmed that Mineral Resources are amenable for exploitation using in situ leach technologies.

Table 1 – Honeymoon Project Resource Summary – 13 July 2015					
Classification	Cut-off grade (% U ₃ O ₈)	Tonnage (Mt)	Grade (% U ₃ O ₈)	Contained U ₃ O ₈ (Thousand Tonnes)	Contained U ₃ O ₈ (Million Pounds)
Honeymoon					
Indicated	0.05	1.44	0.23	2.97	6.54
Total adjusted to account for historical production of ~335 tonnes U ₃ O ₈ Note: Figures have been rounded					
Brooks Dam (BKD)					
Indicated	0.05	0.78	0.11	0.87	1.92
Brooks Dam Extension (BDE)					
Inferred	0.05	0.51	0.15	0.75	1.66
East Kalkaroo					
Inferred	0.05	2.56	0.11	2.94	6.45
Combined Honeymoon, Brooks Dam, Brooks Dam Extension and East Kalkaroo					
Indicated and Inferred	0.05	5.29	0.14	7.53	16.57

EXPLORATION OPPORTUNITIES

The Board considers that the Project contains significant potential for additional Mineral Resources to be defined. Specifically, the Goulds Dam and Billeroo regions (Figure 3) contain historical Mineral Resource estimates that have not yet been validated by the Boss technical team. Regionally, in the Gould's Dam region (Figure 3) airborne geophysical data indicates the potential for untested paleochannel regions, with historical drilling data indicating the presence of uranium mineralisation. Boss has chosen not to publicly announce the potential endowment of these regions until further technical validation endeavours have been completed.

Additionally, past exploration drilling has shown that uranium mineralisation continues up and downstream from ML6109 for more than 15km in each direction within EL's 5215 and 5621 (Figures 1 and 2). The project database contains some 208 drill holes that intersected ore grade mineralisation, with grades of up to 4,000ppm eU₃O₈ (Figure 2). These regions will also be the focus for exploration targeting.



URANIUM ONE AUSTRALIA ASSETS

There is significant infrastructure associated with the acquisition of Uranium One Australia. Key assets include:

- Solvent extraction processing plant with a capacity to produce 880,000lbs of uranium per annum currently on care and maintenance
- Well fields currently on care and maintenance
- 200 person operating mining camp
- Administration buildings
- 75km power line connecting to mains power
- A fleet of vehicles, spares and other equipment associated with the commissioning of the Project
- Runway capable of landing light planes
- Extensive geological database of 1,700 drill holes and associated logging information
- Cash backed environmental bonds in the amount of \$8.7 million



Figure 4: Project infrastructure

ACQUISITION TERMS

Boss has entered into an agreement to acquire 100% of the issued share capital of Uranium One Australia which owns the Honeymoon Uranium Project ("**Acquisition**"). The consideration for the Acquisition includes:

- A \$200,000 site access fee (paid) which gave Boss the exclusive right to access the Honeymoon Uranium Project and conduct all its due diligence
- An initial cash payment of approximately \$2,442,000 (comprising an amount of \$2,115,000 plus a care and maintenance contribution of approximately \$327,000) ("**Closing Amount**")
- \$3 million under a promissory note and repayable within 24 months of completion of the Acquisition
- \$4 million under a promissory note issued and repayable within 48 months of completion of the Acquisition

Boss will also make the following contingent payments to U1 upon successful recommissioning of the Honeymoon Uranium Project:

- \$2 million payable in cash and/or shares upon the later of restart of the operations with commercial production or 5 years of completion of the Acquisition
- 10% of the net operating cash flow of the Honeymoon Project payable annually up to a maximum of \$3 million

The payment of the Closing Amount has been guaranteed by Carbine Resources Limited ("**Carbine Guarantee**"). In consideration for the Carbine Guarantee, Boss issued 10 million unlisted options exercisable at \$0.02 each within 3 years from date of issue. The promissory notes are secured under the terms of a general security deed. Repayment of the amounts due under the promissory notes may be accelerated in certain circumstances, including where Boss raises financing of \$15 million, the sale of the shares in Uranium One Australia or the Honeymoon Project (or part thereof) or a change in control of Boss.

Conditions to the Acquisition

Completion of the Acquisition is subject to various conditions precedent, including but not limited to:

- No insolvency event occurring with respect to Boss, its subsidiaries or Carbine Resources Limited;
- any requisite shareholder approval of Boss;
- U1 and Uranium One Australia obtaining any necessary approvals from contractors;
- U1 and Uranium One Australia discharging existing security interests in respect of the shares in Uranium One Australia and the Honeymoon Project; and



- That a material adverse change in the business or assets of Uranium One Australia does not occur prior to the completion date.

It is anticipated that completion shall occur within approximately three months.

Option over Wattle's 20% in Joint Venture

Boss has a call option to acquire Wattle's 20% interest in the Joint Venture after it completes a positive bankable feasibility study to restart the operations. The terms of the acquisition will be mutually agreed or otherwise determined by an independent valuer taking into account the valuation of the project and market capitalisation of Boss at the relevant point in time. The consideration of the acquisition of Wattle's 20% interest may, at the election of Boss, be payable in cash and/or shares in Boss.

Burkina Faso Gold Assets

In March 2014, Boss and Gryphon Minerals Ltd (ASX: GRY) signed a binding head so fo agreemen to establish a joint venture over Boss' Golden Hill and Gourma Gold Projects located in Burkina Faso (ASX: 4 July 2014 for full terms of the agreement).

Gryphon has completed a review of past work, acquired high resolution remote sensing datasets, completed relatively high density (>1 sample per ~6 km²) drainage sampling, supplemented by laterite sampling, where appropriate, across all joint venture projects. This strategy is allowing the company to fast track targeting across the exploration licences. Some highly anomalous multi-point drainage anomalies have been identified on both projects and these are progressively being followed up by soil and first pass auger drilling seeking the mineralised bedrock source. To date Gryphon has collected over 16,000 soil samples and drilled nearly 1150 auger holes for ~600m since commencing work on the joint venture.

With the wet season occurring throughout the quarter very limited field work took place as access to these areas was difficult. Work was mainly limited to desktop reviews and planning for the next field season.

Gourma Project

The Gourma Gold Project is located within the Fada N'Gourma Greenstone Belt, 250km east of Ouagadougou and only 80km south-southwest of Niger's largest gold deposit, the 50,000 ounce per annum Samira Hill gold mine (1.9 million ounce project). The Project consists of six contiguous permits covering an area of approximately 1,300 km² which is accessible from the south off the Fada N'Gourma Kantchari highway via a well maintained gravel road and from the west via a gravel road.

Observations and samples obtained during field visits prior to the wet season were used during the quarter to assist with geological understanding, including recognition and understanding of



the mineralisation styles and associated pathfinder elements, as well as the potential controls to mineralisation. This work will continue throughout the December quarter and will complement the exploration being undertaken. The small efficient exploration team are working towards generating high quality drill targets across the large land package.

Golden Hill Project

The Golden Hill Gold Project is considered particularly prospective as it is located within the highly mineralised Houndé Greenstone Belt.

Exploration work during this quarter comprised of geological mapping and auger drilling. Auger drilling (total of 96 holes for 558m) focused primarily at the Nahirindon North Prospect and drilled beneath a thick ferricrete plateau on the prospective Boni Sheer Zone in a similar geological environment to that which hosts the Siou Deposit on the Houndé Belt (reserves of 769,000oz at 4.94 g/t gold). The results to date are encouraging and these will be following up once the field season recommences.

Auger results were received in early July including lines drilled at Nahiri Sud Nahiri Sud from a zone dubbed Jack Hammer Hill for the prominent ridge of auriferous ferricrete. Two short auger lines were drilled 250m apart immediately north of this ridge. The lines indicate a NE striking zone of +100 ppb gold anomalism that is approximately 100m wide with peak values of 1.14g/t Au in GHAU1013 and 0.73g/t Au in GHAU0990 along strike (ASX: GRY: 28 October 2015).

A geological review of Jack Hammer Hill indicates that artisanal workings are located at the northern margin of the V7 Granite Stock; the same intrusive that hosts mineralized zones previously targeted by Orezone (TSX: ORE) at A-Zone. The trend of anomalism is also coincident with a belt of mafic schist recently mapped by Gryphon geologists. This mafic schist is in turn parallel to the major Intiedougou Fault Zone, perhaps marking its eastern boundary. A review of historical Induced Polarization geophysical data indicates a significant chargeability anomaly coincident with the projection of several other prospects along strike, suggesting that the ground geophysics will augment the exploration geochemistry datasets and thus aid future drill planning. Follow-up work has been planned and will be undertaken in the new field season starting in the coming quarter.

Fennoscandian Ni-Cu Projects

Due to the Company's focus on the Honeymoon Project during the quarter, no material work was undertaken on the Company's assets in Finland, Sweden and Norway.



Corporate

On 8 September 2015, Boss lodged a prospectus for a non-renounceable rights issue to eligible shareholders on the basis of 2 new shares for every 5 shares held at an issue price of \$0.015 to raise up to \$3.3 million (before costs). The Company was pleased to announce that existing shareholders subscribed for shares totalling \$1,375,786.61 under the rights issue (ASX: 1 October 2015). Significant interest from both existing shareholders and new investors resulted in the placement of all of the shortfall shares as well as an additional placement for a further \$1.03 million. The total amount raised from the rights issue, the shortfall shares and the additional placement resulted in a \$4.3 million raising which will be used to fund the acquisition of the Honeymoon Project and for general working capital.

For further information please contact:

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Appendix 1

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 30 September 2015:

SCHEDULE OF MINING TENEMENTS

Tenement Name	Location	Licence Number	Interest
Boutouanou	Burkina Faso	2011/11/410	100% (GRY farming in)
Diabatou	Burkina Faso	2011/11/409	100% (GRY farming in)
Tyara	Burkina Faso	2011/11-159	100% (GRY farming in)
Foutouri	Burkina Faso	2011/11-160	100% (GRY farming in)
Baniri	Burkina Faso	2009/09-060	100% (GRY farming in)
Intiedougou	Burkina Faso	2009/09-061	100% (GRY farming in)
Mougue	Burkina Faso	2009/09-062	100% (GRY farming in)
Kankandi	Burkina Faso	10/142/MCE	100% (GRY farming in)
Tyabo	Burkina Faso	10/144/MCE	100% (GRY farming in)
Liakka	Finland	Liakka nr.1	Right to earn 100%
Skogtrask Project	Sweden	Skogtrask nr.1 and 2	Right to earn 100%
		Skogtrask nr.3	100%
		Palange nr.1	100
Nottrask Project	Sweden	Norrtrask nr.9	100%
Lilltrask Project	Sweden	Lilltrask nr1, 2 and 3	100%
Linn Project	Norway	Linn 1 - 12	100%
Yarramba	South Australia	ELA2014/00228	Agreement to acquire*
South Eagle	South Australia	EL5215	Agreement to acquire*
Goulds Dam	South Australia	ELA2014/00240	Agreement to acquire*
Katchiwilleroo	South Australia	ELA2014/00239	Agreement to acquire*
Ethiudna	South Australia	EL5043	Agreement to acquire*
Goulds Dam	South Australia	RL83-90	Agreement to acquire*
Honeymoon Mine	South Australia	ML6109	Agreement to acquire*

No tenements were acquired or disposed of during the quarter. There were no interests in farm-in/farm-out agreements acquired / disposed of during the quarter.

*An agreement to acquire the Honeymoon Uranium Project was entered into during the quarter and is expected to complete around 30 November 2015.



Competent Person's Statements

The information in this document that relates to the Honeymoon Uranium Project Mineral Resources is based on information provided by Mr Leon Faulkner, who is a member of the Australian Institute of Geoscientists (member number 3454). Mr Faulkner is a consultant geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Faulkner consents to the inclusion in the document of the matters based on information in the form and context in which it appears. This information has not materially changed since first being reported to the ASX on 1 September 2015.

The information in this document that relates to the Exploration Data is based on information compiled by Mr Neil Inwood. Mr Inwood is a technical consultant for Verona Capital and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Inwood consents to the inclusion in the document of the matters based on information in the form and context in which it appears. This information has not materially changed since first being reported to the ASX on 1 September 2015. For full details of the Mineral Resources and exploration results reported in this document, see ASX announcement lodged on 1 September 2015.

The information in this report that relates to recent exploration results for the Company's projects in Burkina Faso under Joint Venture with Gryphon Minerals Ltd (ASX: GRY) is based on and fairly represents information which has been compiled by Mr Sam Brooks who is a member of the Australian Institute of Geoscientists. Mr Brooks has sufficient experience relevant to the styles of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person, as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves". Mr Brooks is a full time employee of Gryphon Minerals Ltd, the joint venture partner of Boss Resources Ltd for the Company's Burkina Faso Projects, and has consented to the inclusion of the matters in this report based on his information in the form and context in which it appears. This information has not materially changed since first being reported to the ASX on 28 October 2015.

