BOSS RESOURCES LIMITED

ASX ANNOUNCEMENT 20 January 2016

SUBSTANTIAL INCREASE AND UPGRADE IN HONEYMOON URANIUM RESOURCE

HIGHLIGHTS

- **Global Mineral Resource increased to 15.2 Mt @ 820ppm eU_3O_8 for 27.6 Mlb U_3O_8**
  - **Maiden Measured Resource – 1.7 Mt @ 1720ppm eU_3O_8 for 6.5Mlb of U_3O_8**
  - **Indicated Resources – 1.5 Mt @ 1270ppm eU_3O_8 for 4.2 Mlb U_3O_8**
  - **Inferred Resources – 12 Mt @ 640ppm eU_3O_8 for 16.8 Mlb U_3O_8**
- **66% increase in reported endowment at preferred cutoff of 250ppm U_3O_8** (27.6 Mlb of U_3O_8 at 250ppm U_3O_8 cutoff vs 16.6 Mlb at previously reported 500ppm cutoff)
- **31% increase in high grade endowment** (at a directly comparable 500ppm cutoff) (6.9 Mt @ 1420ppm eU_3O_8 for 21.7 Mlb U_3O_8 vs 5.3 Mt @ 1400ppm eU_3O_8 for 16.6 Mlb U_3O_8)
- **The Honeymoon Resource is one of the highest grade uranium resources held by an ASX-listed uranium developer**
- **Additional historical high grade mineralised intercepts of up to 2.8 m @ 1800ppm eU_3O_8 over 1km outside current resource boundary paves way for future resource upgrades which are one the focus points for activity**
- **Resource estimations underway at other exploration targets contained within Boss' 2,600km^2 exploration tenement package**

Boss Resources Limited (ASX: BOE) is pleased to announce a substantial increase in the global Mineral Resources reported in accordance to the JORC Code (2012) to 15.2 Mt at 820ppm eU_3O_8 for 27.6 Mlb of contained U_3O_8 reported above a 250ppm U_3O_8 lower cutoff *(Measured Resource of 1.7 Mt at 1720ppm eU_3O_8 for 6.5 Mlb of contained U_3O_8, Indicated Resources of 1.5 Mt at 1270ppm eU_3O_8 for 4.2 Mlb of contained U_3O_8, and Inferred Resources of 12 Mt at 640ppm eU_3O_8 for 16.8 Mlb of contained U_3O_8)* for the broader Honeymoon deposit in the Curnamona Uranium Province, South Australia.

This represents a 66% increase in reported global metal endowment to the previous 2015 Inferred Mineral Resource of 5.3 Mt at 1400 ppm eU_3O_8 for 16.6 Mlb of contained U_3O_8 which was reported above a 500ppm U_3O_8 lower cut-off (*Note: The 2015 Mineral Resource did not state resources at a 250ppm U_3O_8 lower cutoff so no direct comparison is possible)* and a 31% increase in global metal endowment when a directly comparable 500ppm eU_3O_8 cutoff is used (6.9Mt @ 1420ppm eU_3O_8 for 21.7Mlb of contained U_3O_8). The increase in endowment and Resource Classification is related to a better understanding of the geology, mineralisation continuity and volume due to the advanced 3D geostatistical modelling used. Benchmarking to similar operating uranium projects worldwide indicates that a 250ppm eU_3O_8 lower cutoff should be the preferred reporting option.

Since the acquisition of the Honeymoon Project on 30 November 2015, Boss geologists have undertaken an extensive review of the historical exploration, drilling and geology, and have generated a cohesive 3D

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model (Figures 1 and 2) of the Brooks Dam, Honeymoon and East Kalkaroo mineralisation that covers 5km of the 50km mineralised trend hosted by the Yarramba Palaeochannel, directly around the main Honeymoon processing facility (Figure 1). Boss understands that this is the first time the combined resources have been modelled in 3D which will be invaluable in assisting the technical and development teams to understand the orebody from both an exploration and mining perspective and will allow for more accurate design of production wellfields and screen placement in each hole.

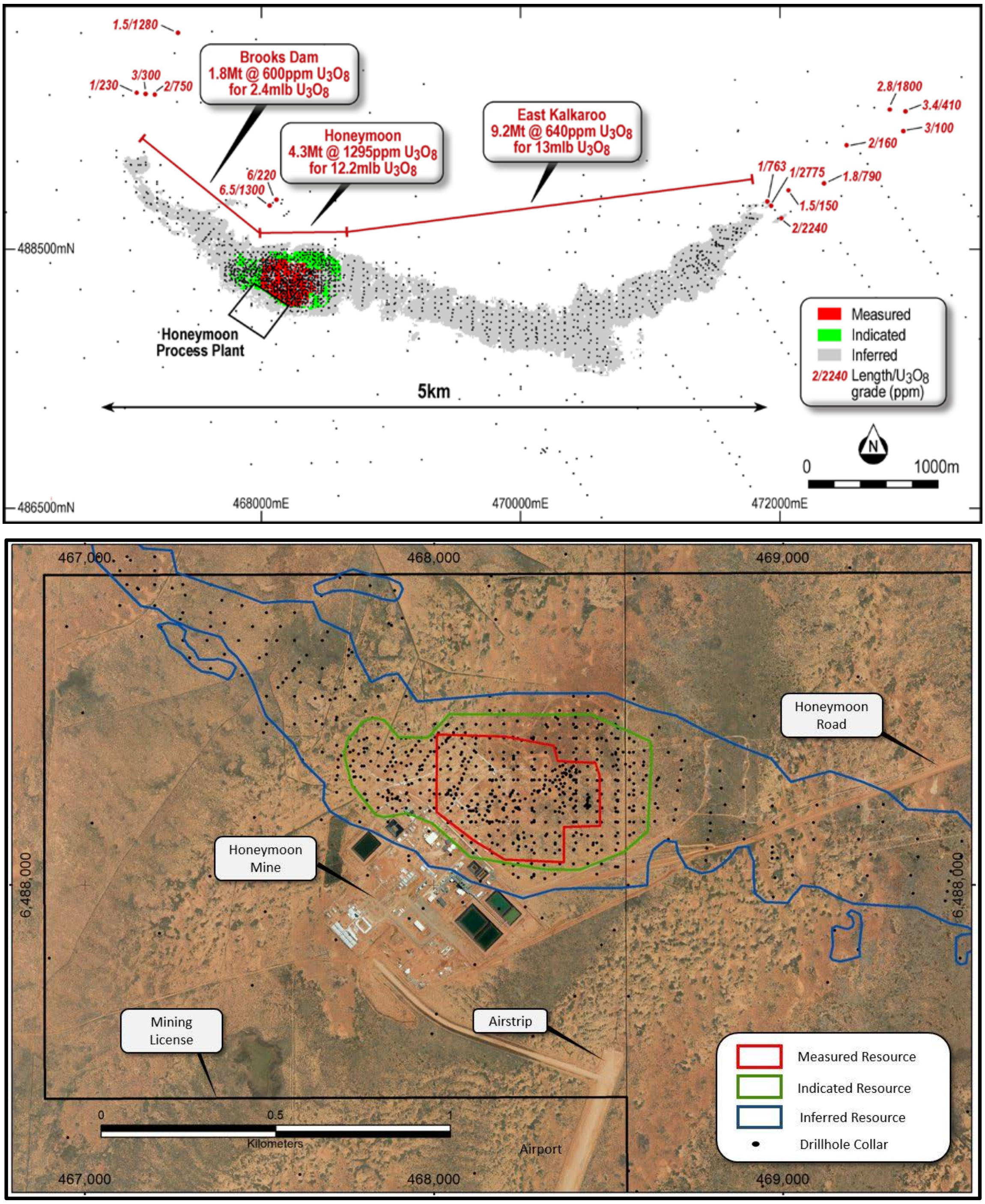

Figure 1: Location of the Honeymoon Resource update (top) and extent of the 3D model of +250ppm eU_3O_8 resource outline with drill positions; and (bottom) mine infrastructure adjacent to the high-grade Measure and Indicated Resources.

The Honeymoon Project boasts one of the highest grade uranium resources held by any ASX-listed uranium developer. Importantly, the resources are all within Boss's existing Mining Lease (ML 6109) and located next to its fully constructed and permitted production facility (Figure 1).

The current exploration database contains multiple high grade mineralised intercepts over 1km along strike which are outside the existing resource boundaries highlighting the potential for future resource expansion (Figure 1).

Based upon the review by the Boss technical team, there is an additional Exploration Target in the Honeymoon region of between 7 and 14 Mt at a grade range of between 300 to 1500ppm U_3O_8 for a potential endowment of between 8 to 23 Mlb of contained U_3O_8 along strike and exclusive of the current resource. The global Exploration Target for Boss's entire 2,600km^2 tenement package is currently estimated to between 42 to 100 Mlbs of contained U_3O_8 (32 Mt to 78 Mt at a grade between 450 to 1400ppm U_3O_8). (See ASX announcement: 8 December 2015.) This Exploration Target is conceptual in nature and there has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Boss technical team is currently working on estimating resources at a number of other exploration targets contained within its Honeymoon Uranium Project. Further updates will be released to the market when available.

Dr Marat Abzalov, Director of Geology for Boss, commented: *"The resource upgrade is another milestone for the Company which underscores our confidence in the Project. I am extremely pleased with the initial upgrade. The 3D modelling highlights the tabular nature of the mineralisation which should bode well for ISL extraction. The geology compares very favourably with highly successful uranium mines in other parts of the world and the resource has great potential to increase with some very low cost infill drilling. I am convinced that we are only dealing with a fraction of the overall potential at Honeymoon in what we believe is an exciting and underestimated uranium province."*

About the 2016 Mineral Resource Update

The updated Mineral Resource for the Honeymoon Project is summarised below in Table 1. See Appendix 1 for the JORC Code 2012 reporting criteria and input parameters.

Table 1
2016 Honeymoon Project Mineral Resource
Covering the Honeymoon, East Kalkaroo and Brooks Dam Deposits
Reported Above a preferred 250ppm eU_3O_8 lower cut-off.

Classification	Million Tonnes	eU_3O_8 %	Contained U_3O_8 (M Kg)	Contained U_3O_8 (M Lb)
Measured	1.7	1720	2.95	6.51
Indicated	1.5	1270	1.92	4.24
Inferred	12.0	640	7.62	16.8
Total	**15.2**	**820**	**12.50**	**27.56**

Note: Figures have been rounded. Quoted resources have been adjusted to exclude previous production of approximately 335t of U_3O_8.

The 2016 Mineral Resource estimate incorporates the results of 1,689 drill holes utilising PFN pU_3O_8 grade data (564 holes for 69,401m) and natural gamma eU_3O_8 grade data (1,125 holes for 135,973m) for a total of 205,375 metres of drilling. Drill spacing ranges from 10-30m by 10-30m (Honeymoon deposit) to 30-50 by 50-80m (East Kalkaroo deposit) and 50-80m x 50m (Brooks Dam deposit). The model was generated using Isatis and Micromine software and utilised localised uniform conditioning (LUC) to emulate a selective mining unit (SMU) of 10m (x) by 10m (y) by 0.5m (z) which is deemed appropriate for an insitu mining scenario. An insitu dry bulk density of 1.9 t/m^3 was used.

In detail, the resources were estimated as 3D model constructed into blocks of 10x10x0.5m. The procedure for estimating U_3O_8 grade into the blocks of 10m x 10m x 0.5m is as follows:

- Composite the drill hole data into 0.5m composites.
- Create the empty block model (prototype model) using 10x10x0.5m cells.
- Unfolding of the composited data and the empty block model. All further geostatistical studies were carried in the unfolded space.
- Variography analysis of the U_3O_8 grades (PFN and Gamma grades are used together). Estimation was made using Multiple Indicator Kriging (MIK), therefore analysis of the mineralisation continuity has required construction several indicator variograms.
- Estimation of grade into the panels using MIK method. Two sizes of panels were used, 20x20x0.5m for the closely drilled Honeymoon deposit area,(approximately 20m dril sapcing), other parts of the deposit utilised a 60m x 60m x 0.5m parent cell.
- The panels were partitioned onto the 10x10x0.5m blocks.
- Uniform Conditioning (UC) was undertaken on the panels. This required additional tests, data transformations and geostatistical modelling:
    - Verification of the diffusive grade distribution model and multi-Gaussianity property of the U_3O_8 variable
    - Declustering of the data in order to obtain non-biased estimate of the data mean.
    - Modelling the distribution of the 10x10x0.5m blocks applying support correction to the punctual anamorphosis.
    - Modelling the variograms of the U_3O_8 values, which was made by transforming them to the Gaussian variable, constructing the Gaussian variograms and then back-transforming to the raw variable variograms.
    - Estimating dispersion variance for the panels grade estimates.
    - Undertake UC estimate of the panels. The methodology was applied twice, separately for the detailed study area where panels were 20x20x0.5m and for remaining part of the domain where panels are 60c60x0.5m in size.
    - Estimate grade of the 10x10x0.5m blocks using Localised Uniform Conditioning algorithm. The blocks were ranked using Ordinary kriging. The LUC method was applied separately for 20x20x0.5m and 60x60x0.5m panels.
    - Combining two LUC models into a single block model and back-folding it to the real space.

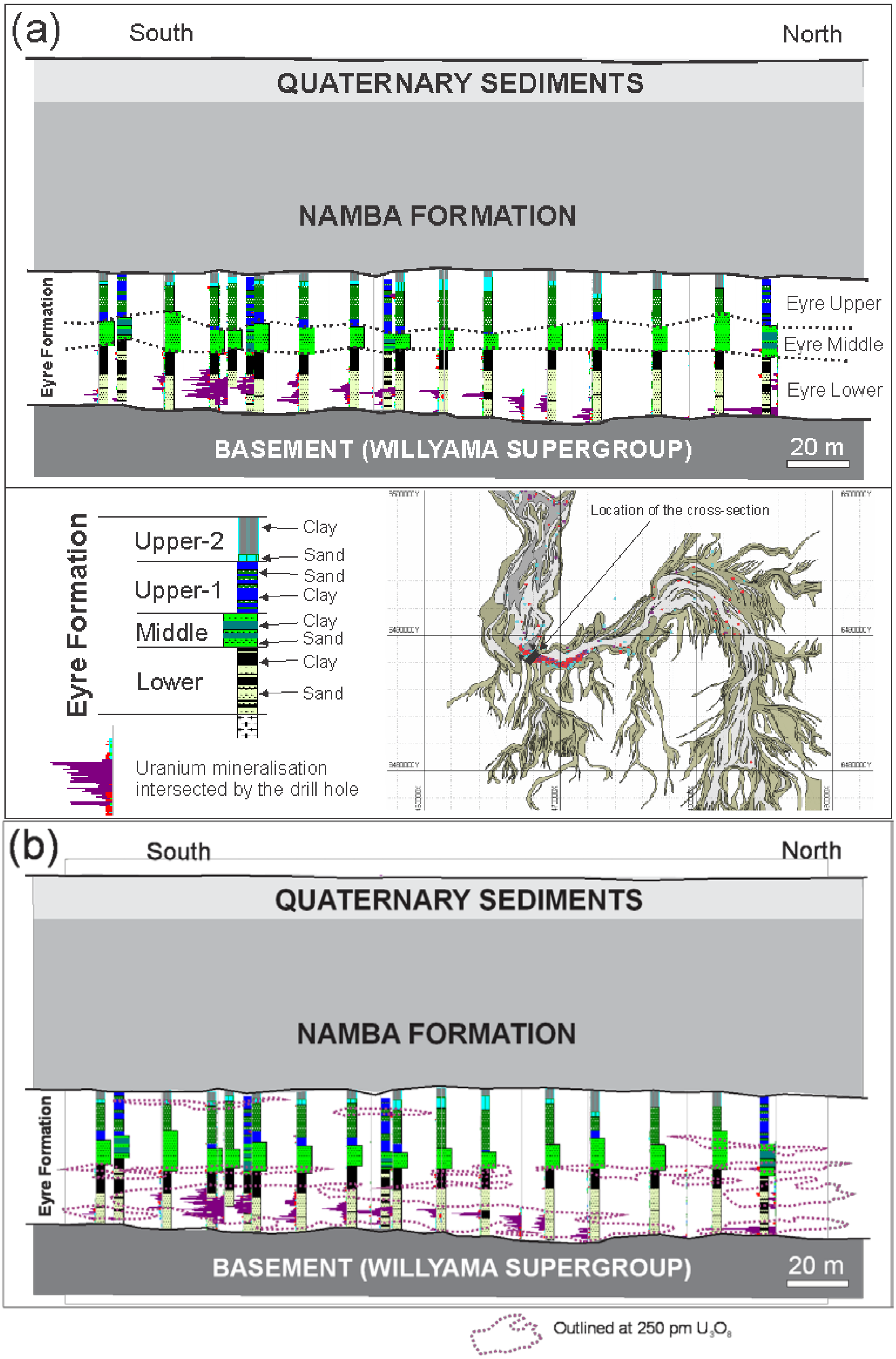

Figure 2: Example cross-section of the Yarramba palaeochannels: (a) main lithotypes; (b) distribution of uranium mineralisation in the palaeochannels at a 250ppm U_3O_8 cutoff.

About the Honeymoon Uranium Project

The Honeymoon Uranium Project (Figure 3) is located in the Curnamona Uranium Province, South Australia, 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.

There are 2 main exploration regions: the Honeymoon Region (ELs 5215 and 5621) which hosts the Honeymoon, Brooks Dam and East Kalkaroo Resources; and the Billeroo Region (ELs 5043, 5623 and 5622) which hosts the Gould's Dam and Billeroo deposits which have historical non-JORC grade estimates.

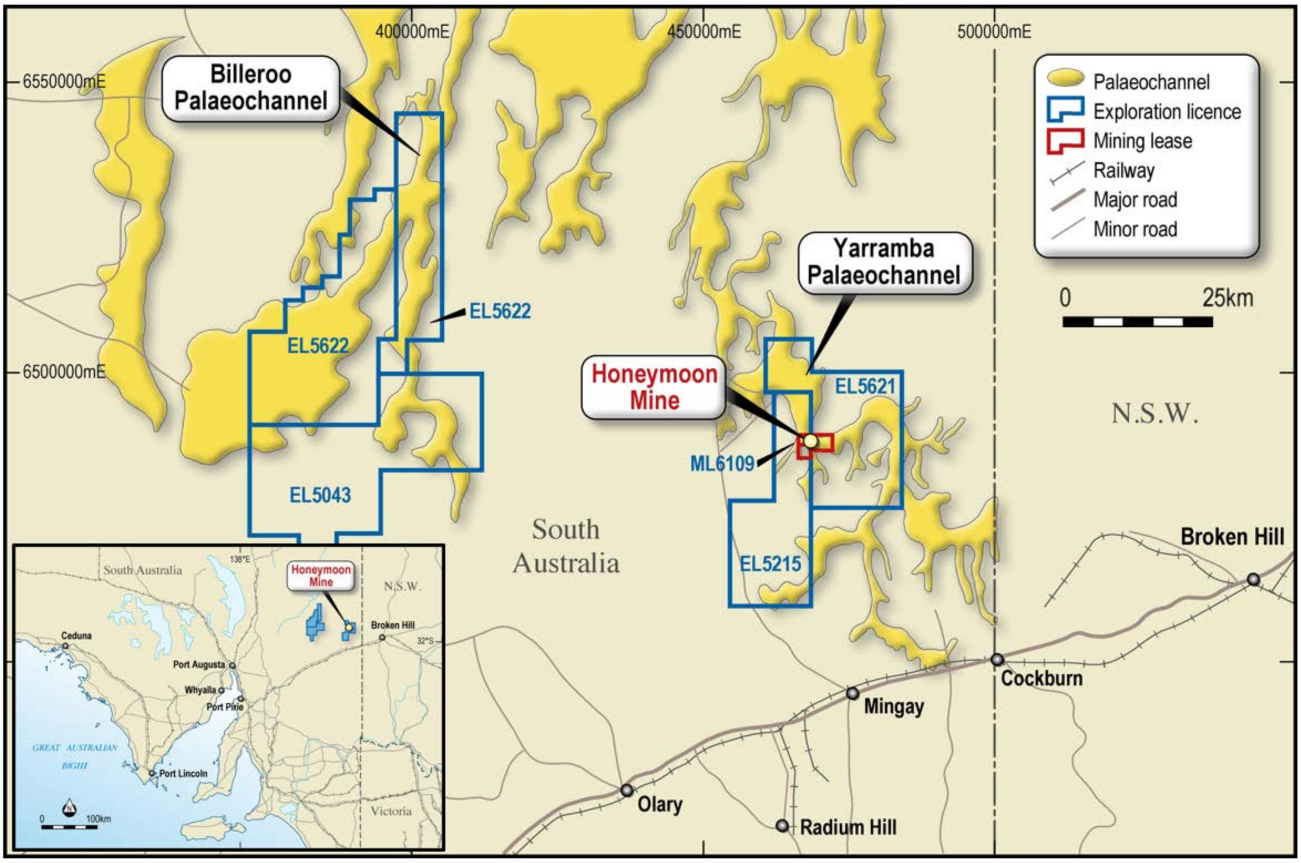

Figure 3: Honeymoon Uranium Project. The yellow shaded regions represent palaeodrainage channels which have potential to host uranium mineralisation and are the focus of exploration efforts.

Exploration Team

Dr Marat Abzalov

Dr Abzalov graduated with High Distinction from the Kazan University in Russia in 1983 and obtained his PhD (Geology) in 1987 from St. Petersburg University, Russia, completing a thesis on magmatic nickel sulphide near the western Russian border with Finland. He has undertaken post-graduate studies in Applied Mathematics at Murdoch University, Perth, and Geostatistics at the Centre of Geostatistique, Fontainebleau, France.

With over 30 years of post-graduate experience in geology, Dr Abzalov's work experience includes the Russian Academy of Sciences, WMC Resources where his last role was Geology Manager – Projects, and Rio Tinto, where he held the roles of Manager – Geostatistical Consultant and Exploration Manager – New Opportunities (Eurasia) AND where he predominantly reviewed ISL uranium projects in Kazakhstan and the USA.

During his professional career, Dr Abzalov has worked on 12 uranium projects worldwide, notably:

- Rossing (Namibia) – resource model for a long term mine plan
- Olympic Dam (Australia) – pre-feasibility study
- Ranger (Australia) – optimisation resource definition drilling programme
- Khan (Jordan) – technical director responsible for all aspects from conceptual exploration model to resource definition drilling
- Budenovskoe (Kazakhstan) – identified acquisition opportunity for Rio Tinto
- Sweetwater (USA) – development of a new geochemical exploration approach

Mr Neil Inwood

Neil Inwood is a professional geologist with 20 years' multi-commodity project and consulting experience in Australia, Africa, USA, Europe, South America and Central Asia. Neil has a BSc in Geology from Curtin University, an MSc in Geology from the University of Western Australia and has studied geostatistics at Edith Cowen University.

Neil is also the Geology Manager for Cradle Resources and was a Principal Consultant with the international mining consultancy group, Coffey Mining, and was the Competent Person (ASX) / Qualified Person (TSX) for a variety of international uranium, gold, nickel, base metal and iron ore projects. Neil has consulted on uranium projects in Australia, Czech Republic, Columbia, Hungary, Namibia and the USA and was the lead resource consultant on the world-class Husab uranium deposit in Namibia. Other uranium projects include:

- Extract Resources – the Husab Uranium project in Namibia
- Bannerman Resources – Etango Uranium Project in Namibia
- Deep Yellow – Namibia and Australian Projects
- Energia – Nyang ISL Project in Western Australia
- Wildhorse Energy Ltd – Pecs Uranium project in Hungary
- U3O8 Corp – Argentine and Brazilian U Projects (Berlin Project)
- Atom Energy – Utah Projects

HONEYMOON 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 3). These consist of Palaeogene age palaeovalleys filled by a sequence of inter-bedded sand, silt and clay). Thickness of the palaeochannels at Honeymoon deposit area reaches a maximum of 55m thick, and the base of the Yarramba channel is around a depth from surface of approximately 110 metres.

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. These features are similar to the uranium mineralisation styles 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.

The Company is not aware of any reason why the ASX would not allow trading in the Company's shares to recommence immediately.

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Competent Persons' Statements

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Dr. M. Abzalov, who is a Competent Person according to the JORC 2012 Code. Dr. M. Abzalov is a Fellow of the AusIMM. He has sufficient experience in estimation Resources of uranium mineralisation, and have a strong expertise in the all aspects of the data collection, interpretation and geostatistical analysis to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Dr. M.Abzalov is employed as a director of Boss Resources Ltd. Dr. M. Abzalov consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information in this document that relates to the Honeymoon Project Exploration Target and associated Exploration Data is based on information provided by Mr. Neil Inwood, who is a Fellow of the AUSIMM. Consent is granted only for the purposes of outlining an Exploration Target, no warranty is made on the use of the exploration information and data for other purposes. Mr Inwood is a consulting geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity undertaken to qualify as Competent Persons as defined in the 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr. Inwood has consented to the inclusion of this information in this document in the form and context in which it appears. An entity associated with Mr Inwood has shares in Boss Resources Ltd. This information was initially reported to the ASX on 8 December 2015 and has not materially changed.

Appendix 1.

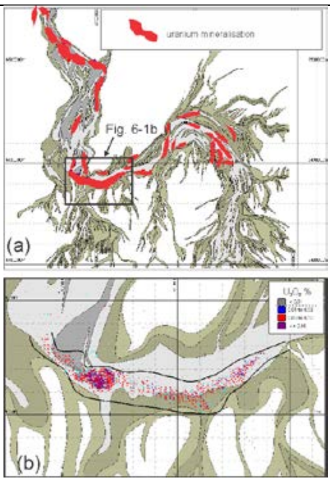
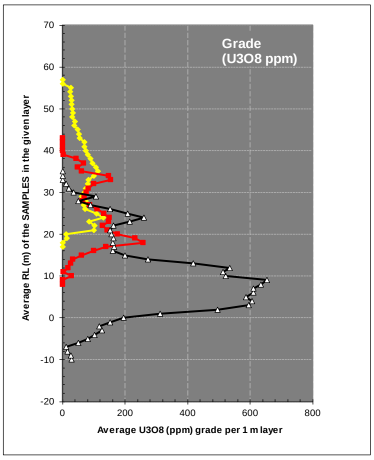
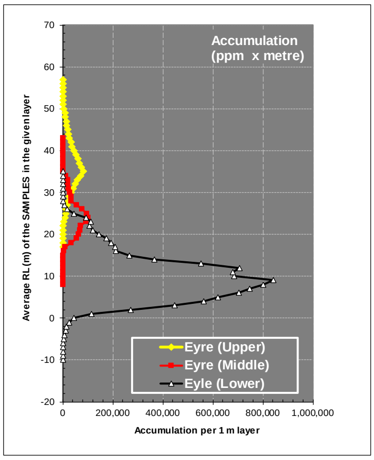
JORC Table 1: Section 1 Sampling Techniques and Data

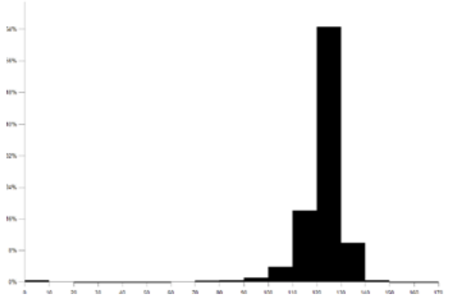
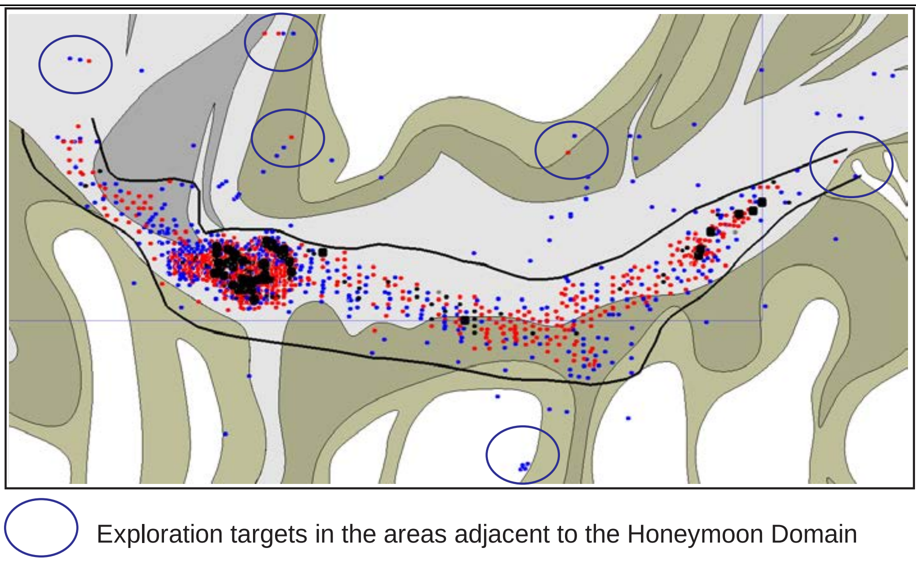
Criteria of JORC Code 2012	Reference to the Current Report Comments / Findings
Sampling techniques	Two types of data were used for the current estimation resources of the Honeymoon Project. These are eU_3O_8 estimated from the down-hole gamma-logs and pU_3O_8 obtained using down-hole PFN analyser. All tools were maintained by specialised electronic companies in Adelaide, including Geoscience Australia Pty Ltd and CIRAPL Pty Ltd. Calibration was regularly undertaken using in-house calibration pits available at the Honeymoon Project and externally, at the certified calibration facilities at Glenside, Conylngham St, Adelaide. Standard industry procedures were used for geophysical logging of the drill holes and estimation from the geophysical logs for the eU_3O_8 (from the gamma-ray logs) and pU_3O_8 (from the PFN instruments) grades
Drilling techniques	Resources of the Honeymoon Project were developed using rotary mud drilling (100 mm to 228 mm in diameter) accompanied by the down hole logging using gamma-ray based technologies and, more recently, by the PFN instruments
Drill sample recovery	Drill cuttings of the rotary-mud drilling were collected at 2 m intervals, geologically logged and preserved as a physical record of the hole. During a detailed drilling campaign in 2004 – 2006 seven rotary-mud drill holes were partially cored. Core drilling was by conventional 100 mm triple-tube with 6" OD core barrel. Core recovery was highly variable and in general poor. Geophysical instruments were accurately calibrated as per industry standards.
Logging	Chip samples, collected at 2 m intervals, have been photographed and geologically logged. Documentation has included colour, grain size, texture, sorting, alteration and oxidation state. Downhole electric logs (resistivity, conductivity and porosity) were systematically used through the palaeochannel. All mineralised intervals were geologically logged with logging standards compliant with the industry standards.
Sub-sampling techniques and sample preparation	Not applicable, because grade was deduced from down-hole geophysical logs. QA/QC of the geophysical data has included systematic control of the depth logged and control of the recorded U_3O_8 grade values. The historic data was validated by the PFN logs. Geophysical tools estimate uranium content at large volumes, approximately 25 to 40 cm radius. The volume is sufficiently large allowing accurate measure of the grade.
Quality of assay data and laboratory tests	Not applicable, because grade was deduced from down-hole geophysical logs. Geophysical tools used to collect data were as follows: • Auslog Gamma (with Guard) S422 • Induction (run with guard) S423 • Prompt Fission Neutron tool PFN#4 • Prompt Fission Neutron tool PFN#8 • Prompt Fission Neutron tool PFN#27 • Prompt Fission Neutron tool PFN#32 • Gamma combined with guard S058 • Auslog 3 arm calliper A326 Holes were logged in down and up directions, which provided a good control of logging consistency. All geophysical tools were regularly calibrated, using in-house facilities and the certified laboratories in Adelaide. QA/QC of the geophysical data has included systematic control of the depth logged and control of the recorded U_3O_8 grade values. The winches in the logging truck have their depth calibration checked periodically. This is made by running out approximately 100m of cable and measuring the rewinding cable against a tape measure. In addition, markers are placed on the cables which are checked on the computer at 50 and 100 metres. Since each individual tool run measures gamma, post logging depth matching is undertaken within

	WellCad® so each tool is adjusted as necessary to the reference. Precision of 10 cm applied to collar RLs and lithological boundary picks. A QA/QC of PFN grades was undertaken by comparing PFN results with XRF assays of quarter core (Lawie, 2006). His report states that: "the volume of rock 'measured' by the PFN is 630 times that of ¼ core, which must improve the representivity of the sample, and hence lower the field sampling error."
Verification of sampling and assaying	The historic gamma-log data were validated by the PFN logs. 42 resource definition drill holes have been twinned with production wells allowing comparison with historic gamma-log results with the PFN deduced grades. Logging data is transferred from logging truck computers to servers in geological office as LAS files (an industry standard log file format). Geological logs are entered on paper then transcribed on to excel spreadsheet. Logging was carried out by either in house U1A loggers or external logging contractors (Borehole Wireline Pty. Ltd. and Independent Logging services). Significant intersections were then verified by U1A site geologists. Primary data is recorded directly to computer hard disk in the logging truck and transferred to a server at the end of the days logging. Each log is reviewed by the logger and a copy of the raw data file and the prepared log were then handed over to the site geologist. The site geologist will make any depth corrections required and then use the log to interpret geology. Copies of raw LAS files, geological logs of chip cuttings and final WellCad Logs are kept on the server. The site geologist makes depth corrections as required and then uses the log to interpret geology.
Location of data points	For the HML program, Haines Surveys established a 40m grid over the Honeymoon deposit area using a Trimble 4000 Real Time Kinematic (RTK) GPS system, whilst simultaneously collecting gravity readings. Accuracy of the system is better than 2cm both vertically and horizontally. This grid, preserved by wooden pegs, was used to locate the majority of the drilling in these programmes, with the rig being positioned to within sub-metre accuracy from the locating peg. Any off-grid holes were triangulated using measurements from at least three surrounding pegs. While the completed holes were being logged, each collar was also picked up using a handheld GPS, to ensure the correct grid peg location was used. Final RLs for all holes were calculated from an Inverse Distance Squared gridded model of the AHD levels collected during Haines' Survey For all later series of holes, positions are set out using a Garmin handheld GPS, after drilling, hole locations are picked up with a differential GPS system that is coupled to the Omnistar augmentation system to improve accuracy. The projection adopted for surveying is GDA 94, MGA zone 54 with AHD elevation. All surveys were tied to the existing registered base stations. Topographic control was improved by Aerometrx Pty. Ltd flying 10cm pixel aerial photography which was rectified using registered survey points installed at site before plant construction began.
Data spacing and distribution	Drill holes on the Honeymoon deposit are spaced at an average of about 10-30 x 10-30m, however, locally the distances between drill holes are 5 x 5 m. Drill hole spacing on East Kalkaroo vary, with some lines 50m apart, some 80m apart with along the line spacing of around 50m. Drill hole spacing on Brooks Dam are also variable with most lines 50m to 60m apart on 50m centres. All holes are vertical, targeting the predominately flat lying sand units of the Eyre Formation. These grids are suitable for estimation Mineral Resources. Uranium grade is composited to 0.5 m.
Orientation of data in relation to geological structure	All holes are drilled vertically which provides an accurate intersection of the flat laying mineralised bodies.
Sample security	Estimation is based on geophysical logs so no physical samples required. Geophysical logs are held on a secure database, backed up to the Company's secure server.
Audits or reviews	Data has been verified several times by independent consultants and found of a quality and accuracy sufficient for estimation mineral resources. The most recent reports are as follows: • Lawie, D, 2006 (ioGlobal) • Bampton, 2006 (ORES) • Skidmore, 2006 (Uranium One)

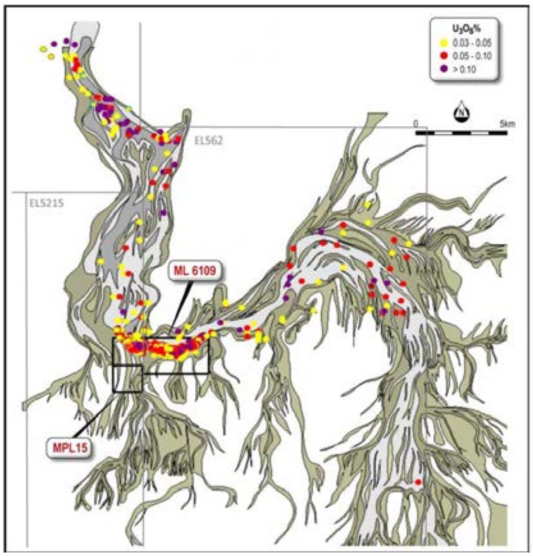
	• Jankowski, 2006 (SRK) • Valliant and Bergen, 2012 (RPA)

JORC Table 1: Section 2 Reporting of Exploration Results

Criteria of JORC Code 2012	**Reference to the Current Report** **Comments / Findings**
Mineral tenement and land tenure status	The Project consists of 1 granted Mining Lease, 5 granted Exploration Licenses, 8 Retention Leases and 2 Miscellaneous Purposes Licenses. The Mining license expires in 2023, exploration licenses expire in 2017 (except EL 5043 which expires in 2016).
Exploration done by other parties	The Honeymoon deposit and surrounding areas of the Yarramba palaeochannel have been intensely explored and systematically drilled starting from 1969. The Honeymoon Project was evaluated several times, with the degree of details varying from scoping studies to bankable feasibility undertaken in 2006. The resource estimation reports are: • Bampton (1998) • Bampton (1999a,b,c) • Bampton (2000) • Stoker (2001). In 2001, P. Stoker estimated the project resources as 2.8 Mt of uranium mineralisation at the average grade of 0.12% U3O8. This yields 3,300 t U3O8 based on no minimum thickness and a cut-off grade of 0.01% U3O8 at Honeymoon and 1.2 Mt grading 0.074% U3O8 containing 910 t U3O8 with a grade-thickness (GT) of 0.38 and a cut-off grade of 0.01% U3O8 in East Kalkaroo (Stoker, 2001). • Bampton (2006). In 2006, K.Bampton estimated 1.2 Mt, grading 0.24% U3O8, containing 2,900 t U3O8 based on data from drilling programs in 2005 and 2006. • Cherry (2013). In 2013 J.Cherry revised the resources using 2D polygonal method and grade*tonnage contours.
Geology	Palaeochannel type sandstone hosted uranium rolls
Drill hole Information	See previously exploration announcements and drillhole collar diagrams. The topography in this region is predominantly flat. All holes were drilled vertically with an average hole length of approximately 120m.
	  

	
Data aggregation methods	Aggregation was not undertaken.
Relationship between mineralisation widths and intercept lengths	Drill traverses are oriented at right angle across the domain strike. Holes are drilled vertically down.
Diagrams	Appropriate and relevant diagrams have been included in the announcement.
Balanced reporting	Balanced reporting has been adhered to. See previous exploration announcements and 2015 resource statement.
Other substantive exploration data	Mineralisation is still open along the strike of the domain.
Further work	Current study was focused on estimation resources of the Honeymoon Project which is located within the median part of the palaeochannel. Strike length of the domain was constrained by the available drill holes and does not represent an actual termination of the uranium rolls. Several drill holes, drilled along the strike of the Honeymoon deposit have intersected high grade uranium mineralisation suggesting that the deposit can be extended along the strike.
	 Exploration targets in the areas adjacent to the Honeymoon Domain

JORC Table 1: Section 3 Estimation and Reporting of Mineral Resources

Criteria of JORC Code 2012	**Reference to the Current Report** **Comments / Findings**
Database integrity	Historic logging was collected onto paper via analog chart. The analog charts were digitised during the late 1990's. The library of the analog charts was kept by U1A and has been sighted by the CP. Geological logs were handwritten onto paper forms and later transcribed into digital form via input into spreadsheet, the original handwritten logs form part of the library. Downhole Logging data for all recent drilling has been in digital format directly into industry standard LAS files stored on servers. Geological logging was done on paper, then entered into Excel spreadsheets or entered directly into Excel. All downhole logging data was loaded into a Microsoft Access database and a series of checks undertaken where no serious transcription errors have been found. Queries have been run on the data set to check for missing intervals, extreme values (high-low), logging speed too high and any suspect data has been checked or removed if needed. During this process, 3 holes that had incorrect calibration factors were found, their grade was recalculated using the correct calibration parameters.
Site visits	M. Abzalov has visited site as part of the technical due diligence of the project carried by Boss Resources in 2015.
Geological interpretation	Palaeochannel type uranium mineralisation is confidently interpreted from the available data. The density of the drilling is sufficient for accurate interpretation and constraining the uranium rolls. The data includes geological and geophysical drill hole logs and EM survey of the area that has allowed to create an accurate map of the palaeochannel.  The current interpretation of the geometry of the mineralised bodies is largely empirical and is based on delineation of the uranium mineralisation between the drill holes. Because of the small distances between the drill holes at the Honeymoon deposit, approaching 5-10 x 5-20 m grid, there appears to be limited scope for alternative geological interpretations, so their potential impact on the resource estimates is considered to be minimal. The current interpretation of the geometry of the mineralised bodies is largely empirical and is based on delineation of the uranium mineralisation between the drill holes. Because of the small distances between the drill holes at the Honeymoon deposit, approaching 5-10 x 5-20 m grid, there appears to be limited scope for alternative geological interpretations, so their potential impact on the resource estimates is considered to be minimal.

	Uranium mineralisation at Honeymoon is distributed within the lower part of the Eyre formation infilling the Yarramba palaeochannel which is the main control of the uranium mineralisation in the district. For guiding the resource estimation, the wireframe of the palaeochannel's base was generated using the drill holes drilled into the Willyama Supergroup (basement) and also wireframes of the stratigraphic contacts with the palaeochannel. Mineralisation is distributed within the median part of the palaeochannel and occurs as a tabular shaped lenses elongated along the strike of palaeochannel. High grade shoots are smaller and surrounded by halo of the lower grade mineralisation.
Dimensions	Strike length measured along the palaeochannel exceeds 6,000 metres. Width of mineralisation measured across the strike is in average 250 m, however it widens at the Honeymoon deposit where it reached 500 m. Mineralisation distributed in the part of palaeochannel encompassing Brooks Dam prospect, Honeymoon deposit and East Kalkaroo prospect is considered as a single domain, called here Honeymoon Project. The rational for this decision is as follows: • Uranium mineralisation is distributed along the entire segment of the palaeochannel without major interruptions of the rolls continuity; • For the entire domain the main host of the uranium is Lower Sand Unit of the Eyre formation; and • Characteristics of the host rocks and the mineralisation style of are not changed between the tree sites.

Estimation and modelling techniques	Resources were estimated as 3D model constructed by the blocks of 10x10x0.5m. The procedure for estimating U_3O_8 grade into the blocks of 10m x 10m x 0.5m is as follows:
	• Composite the drill hole data into 0.5m composites.
	• Create the empty block model (prototype model) using 10x10x0.5 cells.
	• Unfold of the composited data and the empty block model. All further geostatistical studies are carried in the unfolded space.
	• Variography analysis of the U_3O_8 grades (PFN and Gamma grades are used together). Estimation was made using Multiple Indicator Kriging (MIK), therefore analysis of the mineralisation continuity has required construction several indicator variograms.
	• Estimation grade in to the panels using MIK method. Two sizes of the panels were used, 20x20x0.5m for the Honeymoon deposit area, which is drilled with the distances between the drill holes approximately 20 x 20 m. Other parts of the 60m x 60m x 0.5m.
	• The panels have been partitioned onto the 10x10x0.5m blocks.
	• Uniform Conditioning (UC) of the panels. This has required additional tests, data transformations and geostatistical modelling:
	    o verification of the diffusive grade distribution model and multi-Gaussianity property of the U_3O_8 variable.
	    o declustering of the data in order to obtain non-biased estimate of the data mean.
	    o modelling the distribution of the 10x10x0.5m blocks applying support correction to the punctual anamorphosis.
	    o modelling the variograms of the U_3O_8 values, which was made by transforming them to the Gaussian variable, constructing the Gaussian variograms and then back-transforming to the raw variable variograms.
	    o estimating dispersion variance for the panels grade estimates.
	    o undertake UC estimate of the panels. The methodology was applied twice, separately for the detailed study area where panels were 20x20x0.5m and for remaining part of the domain where panels are 60c60x0.5m in size.

- Estimate grade of the 10x10x0.5m blocks using Localised Uniform Conditioning algorithm. The blocks were ranked using Ordinary kriging. The LUC method was applied separately for 20x20x0.5m and 60x60x0.5m panels.
- Combining two LUC models into a single block model and back-folding it to the real space.

In the past resources at the Honeymoon Project were estimated in 2D using polygonal method. Resources were published using cut-off 500 ppm U_3O_8.

The technique used in the past was excessively conservative and by the opinion of the current author were significantly underestimating the resources of the deposit.

The new estimate is made as a 3D geostatistical model. The changed modelling approach has led to a larger estimated tonnage than was obtained in the previous estimates.

The increased tonnage is largely because the 3D techniques allows to more accurate estimate a volume of mineralisation. The chosen modelling technique has also allowed to moderately extrapolate mineralisation in the broadly drilled areas, constraining the distances of extrapolation by the variogram parameters (80 x 60 m, with a minimum 6 composites available), which has allowed to less conservatively estimate Inferred resources.

Resource Category	Resource tonnage	Grade	Contained metal	
	(million tonnes)	U3O8 (ppm)	Kt U3O8	**Mlb U3O8**
Measured (pre-mined)	1.91	1718	3.29	7.25
	mined		-0.34	
Measured (current)*	1.72	1718	2.95	6.51
Indicated	1.51	1272	1.92	4.24
Inferred	12.00	636	7.62	16.81
TOTAL	15.23	821	12.50	27.56

* Measured resource was adjusted for past production of 335t U3O8

Recovery by-products are not envisaged.

Potential deleterious components are

- Carbonates (not reported)
- Sulphides
- Organic carbon
- Clay

The impact of the deleterious components was not adequately studied in the past and represents one of the main objectives for future studies by Boss Resources.

Uranium grade initially was estimate by MIK into the panels of 60 x 60 x 0.5metres and 20x20x0.5metres. Dimensions of the panels are compared with the distances between the drillholes.

The panels were partitioned into the blocks of 10x10x0.5m which were estimated using LUC method.

Selectivity of the ISL is approximately 50 x 50 x 5m which corresponds to a size of a single leach cell.

The model uses significantly smaller blocks, 10x10x0.5m, which are needed to create an optimal wellfield pattern.

The current study is focused on estimating of a single variable, U_3O_8.

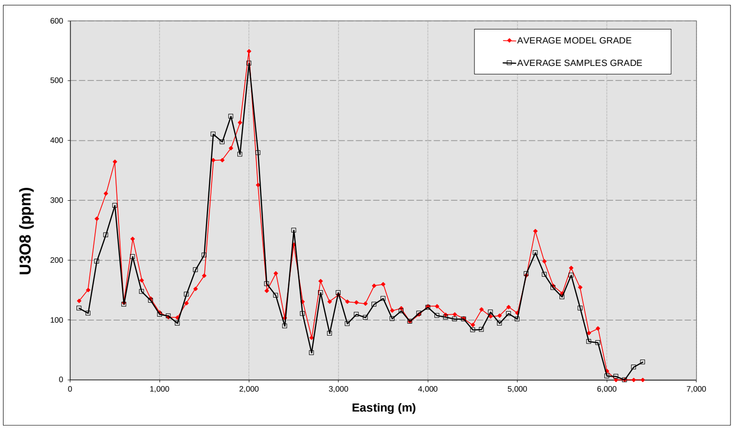
For guiding the resource estimation, the wireframe of the palaeochannel's top and base were generated and also wireframes of the stratigraphic contacts with the palaeochannel.

Mineralisation occurs as lenses elongated along the paleochannels therefore in order to prevent smearing of the grade the domain was unfolded (straightened).

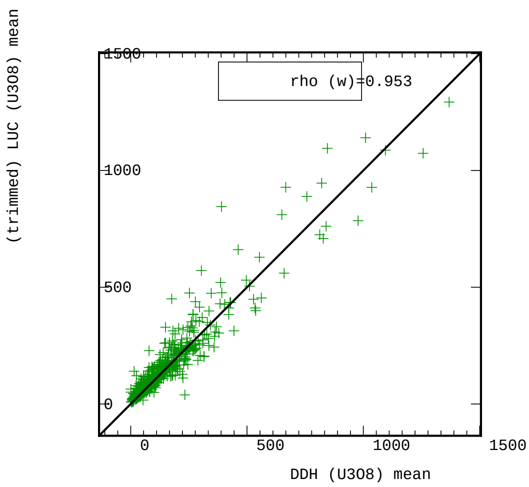
<table>
<tr><td></td><td>Top cut was not applied because the estimation was made using MIK technique.

Two methods of validation have been applied:

• Estimated block grades have been compared with the drill hole (data) grades, using a spider-diagram' which has shown good correspondence between the estimated grades and the drill holes



• In order to estimate quality of the local estimation, in particular the vertical profile of the U_3O_8 values, the smaller panels, 100m (East) x North (across the domain) x 5m(RL), were used. Results show good correlation between the block model and drill hole grades and lacking of a systematic biases.

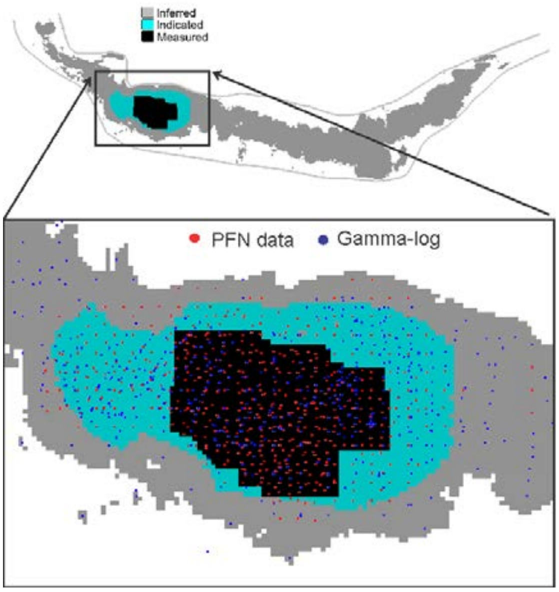

</td></tr>
<tr><td>Moisture</td><td>Dry bulk density, 1.9 t/m^3 was used as a tonnage factor.</td></tr>
<tr><td>Cut-off parameters</td><td>In the past, resources of the Honeymoon deposit were reported at 500 ppm U_3O_8 cut-off grade. Choice of the given cut-off was subjective and was not based on economic assessment of the project.

In the current study a comparative analysis of the cut-off grades at the ISL-uranium projects in Australia and in the world was undertaken as a mean for choosing of the resource cut-off grade. Based on that study a cut-off 250 ppm U_3O_8 was chosen for reporting resources.</td></tr>
<tr><td>Mining factors or assumptions</td><td>Uranium mineralisation at the Honeymoon Project is amenable for exploitation using in-situ leach (ISL) technologies. Mineralisation is located within the aquifer where it is hosted by highly permeable sands. The estimated porosity of the Lower Eyre Sands, that host uranium mineralisation, is approximately 30%.

A moderate depth of mineralisation, and good spatial continuity coupled with the tabular shapes of the rolls are favourable characteristics for exploitation using ISL technologies. This assumption was confirmed by</td></tr>
</table>

	numerous tests including the field leach tests which have confirmed the amenability of mineralisation to ISL extraction. In particular, in-situ leach push-pull tests undertaken in 1979 using sulphuric acid and the range of oxidants including hydrogen peroxide, Caro's acid, and ferric sulphate, has shown that mineralization is amenable for acid leaching and viable pregnant liquor values were obtained.
Metallurgical factors or assumptions	Several tests have been undertaken The tests are described in details in the feasibility study report (Valliant and Bergen, 2012) and briefly summarised here. The tests have confirmed that uranium mineralisation distributed in the Honeymoon Project is amenable for extraction using ISL technologies but has also revealed that the optimal processing conditions are not found and more testings are needed.
Environmental factors or assumptions	Mining license includes all environmental, social and legal permissions allowing to mine the uranium from the reported area using ISL technology.
Bulk density	Dry bulk density, 1.9 t/m^3 was used as a tonnage factor.
Classification	Resource classification at the Honeymoon Project is based on the uncertainty of the estimated grade. These were estimated for the different grids of interest using SGS technique of conditional simulation methodology. Classification parameters were as follows: • Measured resource includes blocks of mineralisation equal to quarterly production which are estimated with an average error of +/-15% (at 0.95 confidence limit); • Indicated resource incudes blocks of mineralisation equal to annual production which are estimated with an average error of +/- 15% (at 0.95 confidence limit); and • Inferred resources include all material outside of the Measured and Indicated resource. This should be estimated with an error of +/- 15% (at 0.95 confidence limit). The threshold of +/-15% is consistent with the industry practices and is used as an approximate guideness in this study. Two production scenarios, 1Kt U_3O_8 per annum, and 2 Kt of U_3O_8 per annum, are considered as a basis for definition of the resource estimation grids. Based on the geostatistically estimated uncertainties of the U_3O_8 estimates the drilling grids like 60 x 40 to 120 x 40 are sufficient for accurate estimation of the quarterly (Measured resources) and yearly (Indicated resources) production. However, these grids are too broad for designing the production cells, and therefore will be suboptimal for definition reserves, which requires more accurate local estimates. Thus, the optimal drilling grids for classification resources are as follows: **Measured**: 40-20 x 20 — **Indicated**: 80-40 x 40-20 — **Inferred**: 120 x 40 The criteria listed in the table (drilling grids) ae re applied in conjunction with assessment of the data reliability. A preference in classification resources as Measured category was given to the mineralisation estimated mainly using the PFN data. Spatial distribution of the resource categories is shown on the map:

Measured	Indicated	Inferred
40-20 x 20	80-40 x 40-20	120 x 40

	 M. Abzalov undertook the data analysis, geological interpretation and geostatistical estimates. The obtained results appropriately reflect his view as the Project's CP on the deposit and resources.
Audits or reviews	The current estimate has been reviewed by N. Inwood, an appropriately qualified person in the type and style of mineralisation under review.
Discussion of relative accuracy/ confidence	Classification parameters were as follows: • Measured resource includes blocks of mineralisation equal to quarterly production which are estimated with an average error of +/-15% (at 0.95 confidence limit); • Indicated resource incudes blocks of mineralisation equal to annual production which are estimated with an average error of +/- 15% (at 0.95 confidence limit); and • Inferred resources include all material outside of the Measured and Indicated resource. This should be estimated with an error of +/- 15% (at 0.95 confidence limit). The threshold of +/-15% is consistent with the industry practices and is used as an approximate guideness in this study. Resources are estimated as small blocks 10 x 10 x 0.5 m. The size of the blocks and estimation methodology provide the good estimate of the local tonnages and grades with the level of details sufficient for creating the mine (ISL wellfield) design and plan the mine production. The level of detail in the estimated Measured and Indicated resources and accuracy of the estimates are sufficient for conversion these Resources to Ore Reserves following the guidelines of the JORC Code 2012. Production data was not available.