

CORE ASSAYS POSITIVELY CONFIRM GRADES AT HONEYMOON URANIUM PROJECT

HIGHLIGHTS

- Chemical assays of four sonic holes confirm PFN measured grades
 - Assays average 15% higher than PFN grades used for resource calculation
- High grade intercepts encountered including
 - 1.4m @ 2360 ppm U₃O₈
 - 1.1m @ 1290 ppm U₃O₈
 - 1.0m @ 1066ppm U₃O₈

Boss Resources Limited (ASX: BOE) is pleased to announce the results of the sampling of four sonic holes (Figure 1) have positively confirmed the grades previously provided by PFN measurement. The four sonic holes were drilled by the previous owners of the Honeymoon Project but never laboratory analysed. One of the holes was drilled within the main Honeymoon Resource region, and three were drilled within the East Kalkaroo Resource region (Figure 2).

The sampling has enabled a detailed comparison to be made of the downhole PFN pU₃O₈ grades to the laboratory analysis (ICPMS). On average, the laboratory analysis of the core samples were 15% higher than the relevant PFN grades (506ppm U₃O₈ vs 441ppm pU₃O₈). Although there is not enough data to definitely define a trend over the whole resource region, it is noted that sampling of sonic core from the Gould's Dam Deposit also indicated a strong positive disequilibrium when comparing PFN and gamma eU₃O₈ grade data to chemical grade data (ASX: 8 April 2016). The observed effect is most significant when high grades (>1500ppm U₃O₈) are observed.

The four sonic holes were drilled in 2011 by Boart Longyear with a nominal core diameter of 5" and probed using the site PFN tool at the time of drilling. Core recovery was generally high (>85%). PFN downhole probing grade data has been used for the majority of uranium grade analysis at the Honeymoon deposit (631 holes or 60% of total), and forms significant portions of the data sets for Brook's Dam (50 holes or 46% of total) and East Kalkaroo (66 holes or 13% of total).

The sonic core holes were sampled in 2016 on intervals ranging from 25cm to 1m with ½ and ¼ core samples taken. The samples targeted the main mineralised horizons and also bracketed waste material adjacent to mineralisation. Laboratory grade analysis for the sonic core samples

was undertaken by Bureau Veritas Minerals Pty Ltd in Adelaide. Digest on pulp samples was undertaken by lithium metaborate digest with analysis of total uranium and thorium by Inductively Coupled Plasma Mass Spectrometry (ICPMS). Multi-element analysis was undertaken using Inductively Coupled Plasma Optical Emission Spectrometry (ICPOES). Standards and blanks were included in the submitted samples. Full sampling and drilling details are shown in Appendix 1.

Table 1: Summary Results of 2016 Sonic Core Sampling

Hole ID	Easting (MGA94)	Northing (MGA94)	RL	From	To	Length	Laboratory U ₃ O ₈ ppm (ICPMS)	PFN pU ₃ O ₈ ppm	PFN Natural gamma eU ₃ O ₈ ppm
HEX126S ^a	470645	6488098	123	96.74	98.9	2.16	488	228	222
HEX126S				107.94	109.95	2.01	1053	884	693
HEX033S	468936	6488195	122	96.32	97.45	1.13	1290	647	243
HEX033S				103.61	106.14	2.53	171	358	192
HEX019S ^a	471394	6488462	121	93.86	94.79	0.93	216	217	144
HEX019S				97.8	98.8	1	1066	1778	812
HEX019S				107.04	110.91	3.87	366	529	371
HEX019S ^b				119.5	120.9	1.4	2361	788	525
HEX019S ^c				122.45	123.9	1.45	179	159	N/A
HMI063S	468150	6488195	123	111.46	117.25	5.79	167	194	292
HMI063S				105.32	108.07	2.75	144	292	250
HMI063S				95.18	95.71	0.53	476	148	166
Combined						25.55	506	441	322
^a – depth matching used to align radiometric and chemical data sets ^b – includes 0.5m of lost core – this interval allocated a grade of 0% when calculating the intervals grade includes 0.5m of lost core. This interval was allocated a grade of 0% when calculating the length-weighted average grade ^c – natural gamma eU ₃ O ₈ grade data not available									



Figure 1: Logging and Sampling of Sonic Core - Holes HMI063S and HEX019S shown.

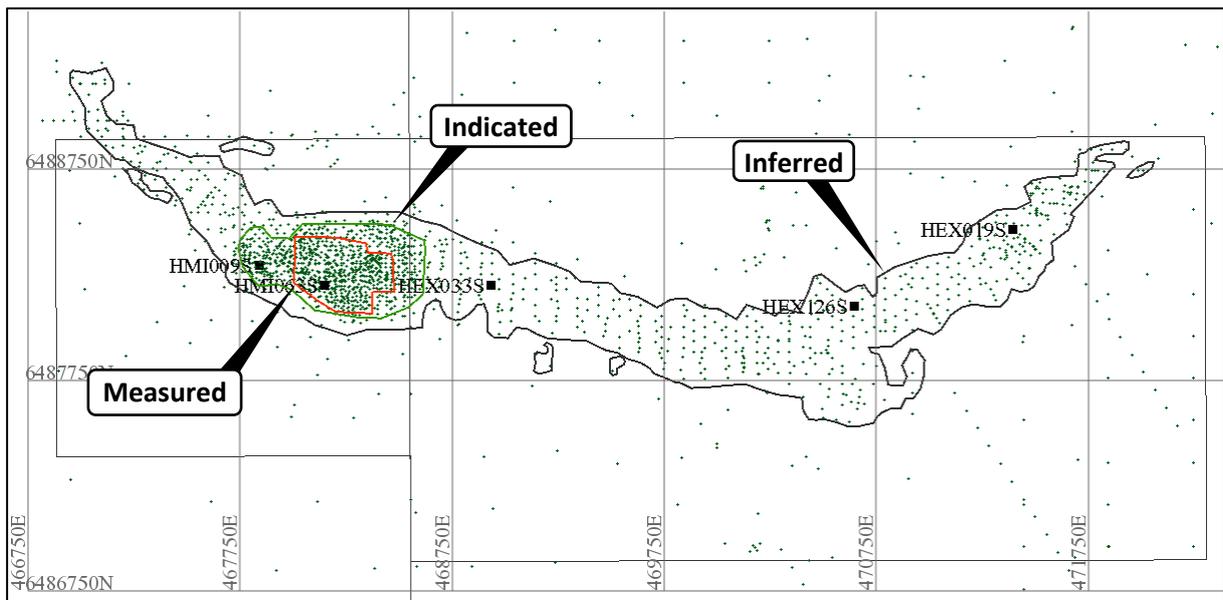


Figure 2: Location of Sonic Core holes at the Honeymoon and East Kalkaroo Deposits. 2016 Resource areas shown.

About the Honeymoon Uranium Project

The Honeymoon Uranium Project (Figure 3) is located in 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 Eastern Region (ELs 5215 and 5621) which hosts the Honeymoon, Brooks Dam and East Kalkaroo Resources; and the Western Region (ELs 5043, 5623 and 5622) which hosts the Gould's Dam and Billeroo deposits.

The Project has combined JORC 2012 Mineral Resources across three main project areas of 40Mt at 650ppm eU₃O₈ for 57.8Mlb of contained U₃O₈. Including Measured Resources of 1.7MT @ 1720ppm eU₃O₈, Indicated Resources of 5.9Mt @ 810ppm eU₃O₈ and Inferred resources of 32.5Mt @ 569ppm eU₃O₈ reported above a 250ppm lower cutoff.

The Project also has a combined Exploration Target of between 32Mt to 78Mt at a grade of between 450ppm and 1400ppm U₃O₈ with a potential target endowment of between 42Mlb and 100Mlb of contained U₃O₈. 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. See ASX announcement of 8 December 2015 for further information.

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 4). 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 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.

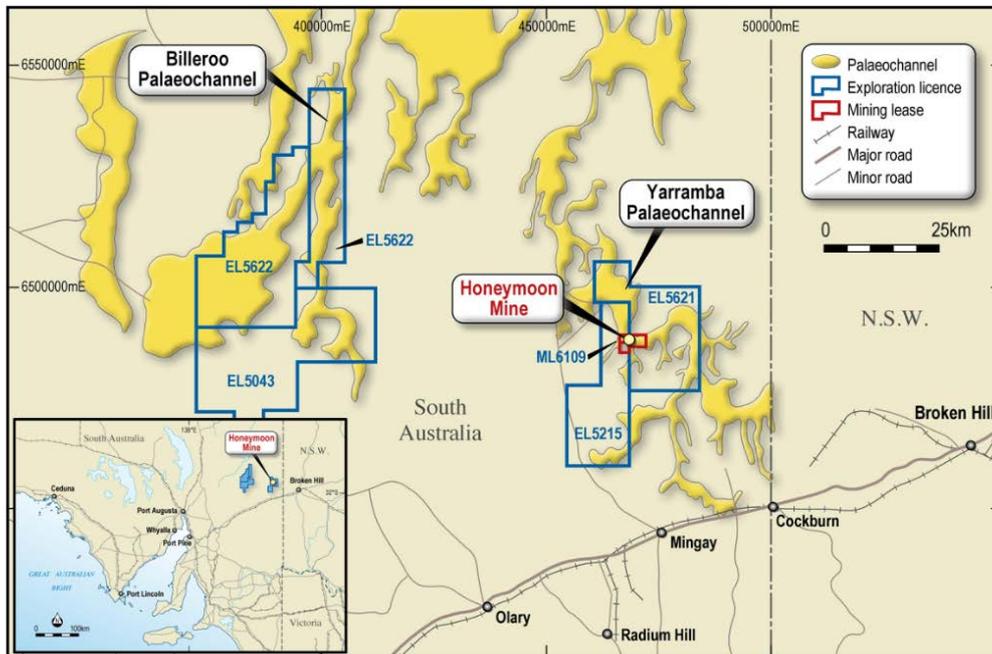


Figure 3: Honeymoon Uranium Project. The yellow shaded regions represent palaeodrainage channels which have potential to host uranium mineralisation and are the focus of exploration efforts.

Queries:

Evan Cranston (Corporate Director) +61 408 865 838
 Grant Davey (Executive Director) +61 447 753 163

Competent Persons' Statements

The information in this document that relates to the Exploration Data is based on information provided by Mr. Neil Inwood, who is a Fellow of the AUSIMM. 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.

The information in this document relating to the Mineral Resources is extracted from the announcements entitled 'Substantial Increase And Upgrade In Honeymoon Uranium Resource' dated 20 January 2016 , 'Boss Increases Honeymoon Uranium Project Resource' dated 8 April 2016, 'Maiden Resource of 5.2Mlb for Jason's Deposit' dated 14 June 2016 and is available to view on www.bossresources.com.au. The information relating to the Exploration Target is extracted from the announcement entitled 'Honeymoon Project Exploration Update' and dated 8 December 2015. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that, in the case of Mineral Resources or Ore Reserves, all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

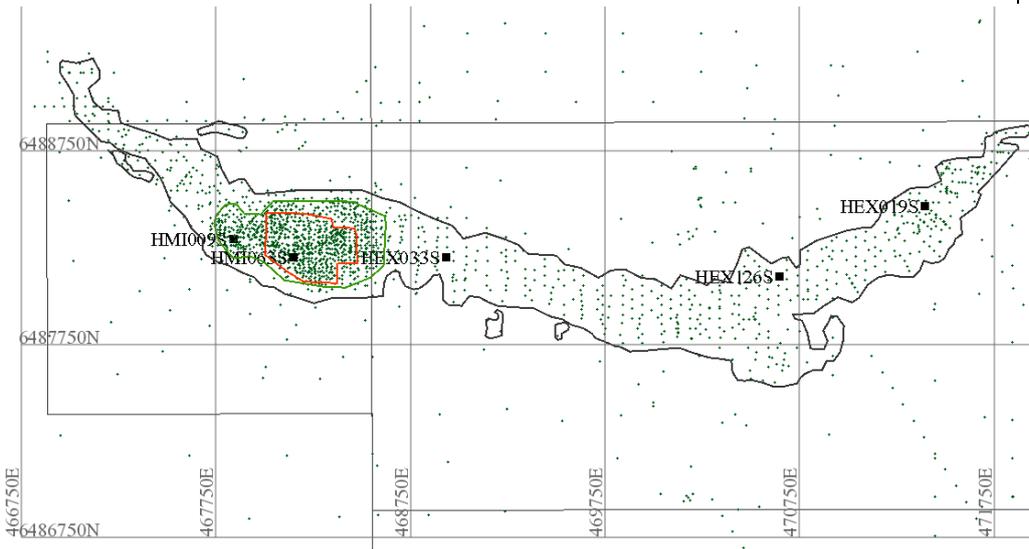
Appendix 1 - JORC TABLES

JORC Table 1: Section 1 Sampling Techniques and Data

Criteria of JORC Code 2012	Reference to the Current Report
	Comments / Findings
<i>Sampling techniques</i>	<p>Sonic core was sampled on 25cm to 1m intervals with ½ and ¼ core samples taken. 25cm sampling was taken in regions of identified mineralisation. In-hole radiometric uranium grade data was determined with eU₃O₈ determined from the down-hole gamma-logs and pU₃O₈ obtained using down-hole PFN analyser.</p> <p>All tools were maintained by specialised electronic companies in Adelaide, including Geoscience Australia Pty Ltd and CIRAPL Pty Ltd.</p> <p>Calibration was regularly undertaken using in-house calibration pits available at the Honeymoon Project and externally, at the certified calibration facilities at Glenside, Conyngham St, Adelaide. Standard industry procedures were used for geophysical logging of the drill holes and estimation from the geophysical logs for the eU₃O₈ (from the gamma-ray logs) and pU₃O₈ (from the PFN instruments) grades</p>
<i>Drilling techniques</i>	The holes were drilled by Boart Longyear using the Sonic Coring technique to provide a nominal 5-6" diameter hole.
<i>Drill sample recovery</i>	Core recovery was recorded by interval and reported as between 85% and 100%. Missing intervals are marked in the drill trays.
<i>Logging</i>	Core was photographed and geologically logged. Documentation has included colour, grain size, texture, sorting, alteration and oxidation state. All mineralised intervals were geologically logged with logging standards compliant with the industry standards.
<i>Sub-sampling techniques and sample preparation</i>	<p>½ to ¼ core samples (up to 3kg) were taken and sent to the Bureau Veritas Laboratories in Adelaide for drying, crushing (nominal 3mm) and pulverisation (nominal -75um) according to the laboratory protocols.</p> <p>QA/QC of the geophysical data has included systematic control of the depth logged and control of the recorded U₃O₈ grade values. 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.</p>
<i>Quality of assay data and laboratory tests</i>	<p>Company submitted standards and blanks were included during submission; laboratory repeats were also undertaken. These all show acceptable levels of accuracy and precision. Multi element analysis was undertaken by lithium metaborate digest with analysis of total uranium and thorium by Inductively Coupled Plasma Mass Spectrometry (ICPMS). Multi-element analysis was undertaken using Inductively Coupled Plasma Optical Emission Spectrometry (ICPOES). Standards and blanks were included in the submitted samples</p> <p>Geophysical tools used to collect data include:</p> <ul style="list-style-type: none"> • 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

	<p>Holes were logged in down and up directions, which provided a good control of logging consistency.</p> <p>All geophysical tools were regularly calibrated, using in-house facilities and the certified laboratories in Adelaide.</p> <p>QA/QC of the geophysical data has included systematic control of the depth logged and control of the recorded U₃O₈ grade values.</p> <p>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.</p>
<i>Verification of sampling and assaying</i>	<p>The gamma-log data were validated by the PFN logs. Depth intervals were correlated using gamma peaks on core and related to down-hole PFN grade peaks.</p> <p>Depth intervals are recorded in the core trays and photographed. Professional database services were used to acquire and validate the assay data.</p>
<i>Location of data points</i>	<p>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.</p> <p>The projection adopted for surveying is GDA 94, MGA zone 54 with AHD elevation. All surveys were tied to the existing registered base stations.</p> <p>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.</p>
<i>Data spacing and distribution</i>	<p>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.</p> <p>Drill hole spacing on East Kalkaroo vary, with some lines 50m apart, some 80m apart with along the line spacing of around 50m.</p> <p>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.</p> <p>These grids are suitable for estimation Mineral Resources.</p> <p>Uranium grade is composited to 0.5 m.</p>
<i>Orientation of data in relation to geological structure</i>	<p>All holes are drilled vertically which provides an accurate intersection of the flat laying mineralised bodies.</p>
<i>Sample security</i>	<p>Core samples were stored on site then transported to the laboratory under the supervision of site personnel.</p>
<i>Audits or reviews</i>	<p>N/A</p>

JORC Table 1: Section 2 Reporting of Exploration Results

Criteria of JORC Code 2012	Reference to the Current Report
	Comments / Findings
<i>Mineral tenement and land tenure status</i>	<p>The Project consists of 1 granted Mining Lease, 5 granted Exploration Licenses, 8 Retention Leases and 2 Miscellaneous Purposes Licenses.</p> <p>The Mining license expires in 2023, exploration licenses expire in 2017 (except EL 5043 which expires in 2016).</p>
<i>Exploration done by other parties</i>	<p>The Honeymoon deposit and surrounding areas of the Yarramba palaeochannel have been intensely explored and systematically drilled starting from 1969.</p> <p>The Honeymoon Project was evaluated several times, with the degree of details varying from scoping studies to bankable feasibility undertaken in 2006. Resource estimates have been made from 1998 to 2016.</p>
<i>Geology</i>	Palaeochannel type sandstone hosted uranium roll and tabular style.
<i>Drill hole Information</i>	<p>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.</p> <p>Collar positions for the holes analysed are shown below collar positions are shown in Table 1 above.:</p> 
<i>Data aggregation methods</i>	<p>Mineralised intervals were chosen based upon a nominal 100ppm U₃O₈ cutoff. Consideration was given to mineralisation defined by a combination of PFN eU₃O₈ and natural gamma eU₃O₈ co-existent intervals.</p>

<i>Relationship between mineralisation widths and intercept lengths</i>	<p>Drill traverses are oriented at right angle across the domain strike.</p> <p>Holes are drilled vertically down.</p>
<i>Diagrams</i>	Appropriate and relevant diagrams have been included in the announcement.
<i>Balanced reporting</i>	Balanced reporting has been adhered to. See previous exploration announcements.
<i>Other substantive exploration data</i>	Mineralisation is still open along the strike of the domain.
<i>Further work</i>	Further core holes will be planned to enable a fuller understanding of practical disequilibrium and sedimentological conditions within the deposit. Further exploration drillin is planned ieth Jasons region of the deposit.