ASX Announcement 25 March 2019

ASX: BOE

Significant Increased Exploration Target over Honeymoon Uranium Project

HIGHLIGHTS

- Global exploration review increases Exploration Target on the Honeymoon Uranium Project, South Australia
- Increased Exploration Target is additional to the February 2019 Mineral Resource estimate of 24Mt at 660ppm U_3O_8 for a total contained uranium oxide content of 36 Mlbs U_3O_8, at 250ppm cut-off for the Honeymoon Re-Start Area
- Revised 3D modelling within Honeymoon Re-Start Area shows mineralisation remains open along and across strike of known channel system

Boss Resources Limited (ASX: BOE) is pleased to announce a significant increase in the Exploration Target for its Honeymoon Uranium Project in South Australia. The Exploration Target comprises 10 areas; seven within the Eastern Region tenements and three located in the Western Region tenements (Figure 1).

The increased Exploration Target estimate for the Honeymoon Uranium Project now stands at **28 Mt to 133 Mt of mineralisation at a grade of 340 ppm to 1,080 ppm U_3O_8 for a contained 58 Mlbs to 190 Mlbs U_3O (26,300 to 86,160 tonnes of contained U_3O_8), using a cut-off of 250ppm.**

At the upper end of the target range this represents a 90% increase from the previously reported Exploration Target[1].

Boss' increased Honeymoon Exploration Target does not include areas of existing Mineral Resource and the potential quantity and grade reported are conceptual only in nature. Insufficient exploration has been conducted to estimate a JORC-compliant Mineral Resource and it is uncertain whether future exploration will lead to the estimation of a Mineral Resource in the defined areas.

Boss Resources Managing Director Duncan Craib said, "*The increased Exploration Target is another step forward and we look forward to unlocking additional large-scale uranium mineralisation within the broader Honeymoon Uranium Project. This has been made possible by the diligent efforts of the geology department re-analysing historical and recent drill and geophysical results.*

"Having a fully permitted mining licence and existing infrastructure makes Honeymoon one of the few uranium projects worldwide positioned that can participate in the early stages of a new bull market."

[1] Announced to the ASX on 8 December 2015

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Honeymoon Uranium Project Summary

The Honeymoon Uranium Project is situated approximately 80km northwest of Broken Hill, near the border of South Australia and New South Wales. The project is 100% owned by Boss Resources Ltd and covers 2,600km^2, consisting of one granted Mining Licence, five granted Exploration Licences, three Retention Leases and two Miscellaneous Purpose Licenses.

The Honeymoon Uranium Project comprises two main areas (Figure 1):

1. The Eastern Region, which contains Honeymoon's Re-Start Area (ML6109, EL6081 and EL5621), hosting the Brooks Dam, Honeymoon, East Kalkaroo and separate Jason's Deposits; and
2. The Western Region (EL6020, EL5623 and EL5622) which hosts the Gould's Dam Deposit.

The Mineral Resource for the **Honeymoon Re-Start Area totals 24Mt at 660ppm U_3O_8 for 36 Mlb U_3O_8**, while the global **Honeymoon Mineral Resource stands at 52.4 Mt at 620ppm U_3O_8 for 71.6 Mlb U_3O_8**, using a cut-off grade of 250 ppm.[2]

Resource Classification	Tonnage (Million Tonnes)	Average Grade (ppm U_3O_8)	Contained Metal (Kt, U_3O_8)	Contained Metal (Mlb, U_3O_8)
Jason's (March 2017) [2]				
Inferred	6.2	790	4.9	10.7
Gould's Dam (April 2016) [3]				
Indicated	4.4	650	2.9	6.3
Inferred	17.7	480	8.5	18.7
Honeymoon Re-Start Area (January 2019)				
Measured	3.1	1,100	3.4	7.6
Indicated	14	610	8.7	19
Inferred	7.0	590	4.1	9.1
TOTAL HONEYMOON URANIUM PROJECT				
Measured	3.1	1,100	3.4	7.6
Indicated	18.4	630	12.0	25.5
Inferred	30.9	570	18.0	38.5
Total	**52.4**	**620**	**32.5**	**71.6**

Table 1: Summary of upgraded Mineral Resource for the global Honeymoon Uranium Project

In addition to the global Mineral Resource, the Exploration Target estimate for the Honeymoon Uranium Project increased to **28 Mt to 133 Mt of mineralisation at a grade of 340 ppm to 1,080 ppm U_3O_8 for a contained 58 Mlbs to 190 Mlbs U_3O (26,300 to 86,160 tonnes of contained U_3O_8), using a cut-off of 250ppm.**

[2] Announced to the ASX on 25 February 2019
[3] Announced to the ASX on 8 April 2016

Honeymoon Exploration Targets

Honeymoon's Exploration Target is comprised of 10 target areas, of which five are in areas extensional to the existing Mineral Resources (Refer Figure 1). The remaining five areas target geophysical anomalies, i.e. identifiable features on regional-scale geophysical data that have historically been associated with known mineralisation elsewhere in the Honeymoon Project area. Only two of these anomalies are supported by some drilling.

Much of the data used in the Exploration Target estimation process came from historical work undertaken around the project area between 1972 and 2003 by many different companies. Due to the changing nature of project ownership over time, and transfer of project data to the next generation of explorers, it is not always possible to comment on the accuracy or quality of much of the exploration drilling, sampling or uranium grades derived from downhole logging prior to the purchase of the Company's PFN tools in 2003. However, based on the large volume of data reviewed and used in the recently upgraded, February 2019 Mineral Resource estimate for the Honeymoon Re-Start Area, Boss' Competent Person believes the pre-2003 historical data to be of sufficient quality to be indicative of potential uranium grades around the project area.

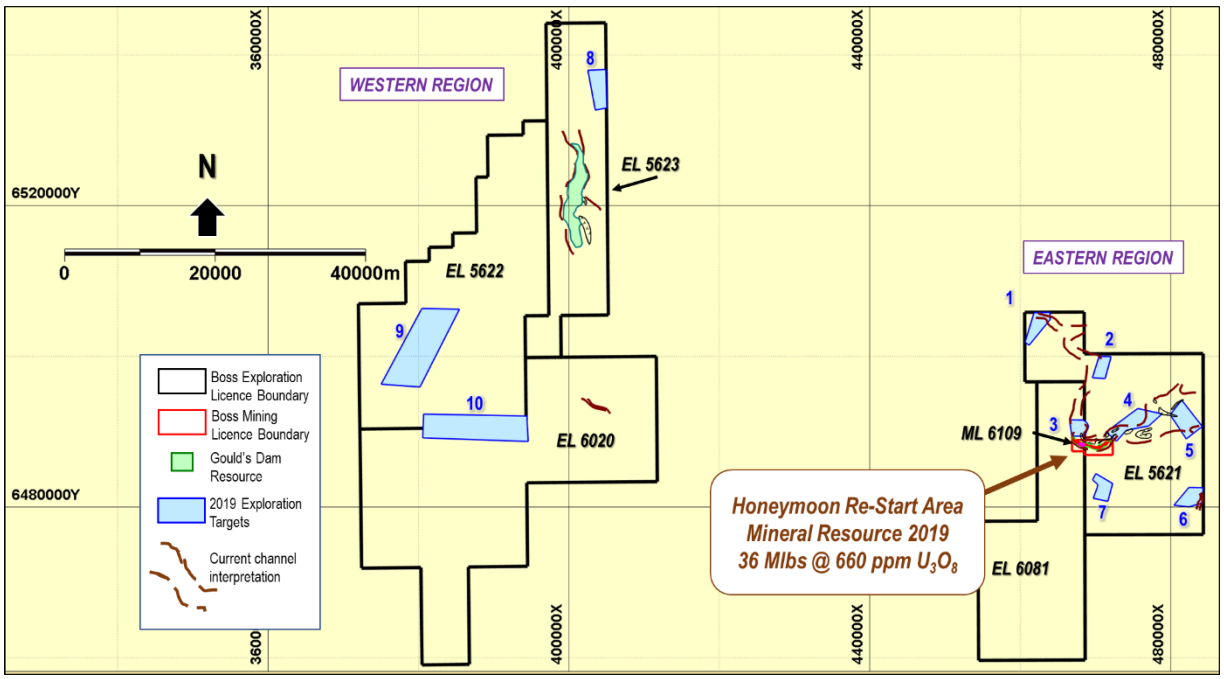


Figure 1: Honeymoon Uranium Project Exploration Target Areas. Boss' increased Honeymoon Exploration Target does not include areas of existing Mineral Resource and the potential quantity and grade reported are conceptual only in nature. Insufficient exploration has been conducted to estimate a Mineral Resource and it is uncertain whether future exploration will lead to the estimation of a Mineral Resource in the defined areas.

Work involved in the recently updated Mineral Resource estimate for the Honeymoon Re-Start Area[2] consisted of the construction of new 3D geology and mineralisation models, based on a full review and reinterpretation of all available drilling data. Modelling aimed to provide updated information for the wellfield design stage of the Definitive Feasibility Study. However, a secondary objective was to use these models in a systems-style approach for regional exploration in order to a) find deposits analogous to the Honeymoon domains, or b) identify uranium deposits of different morphology but still amenable to extraction via in-situ recovery.

Mineralisation within the Honeymoon Re-Start Area is present in the form of tabular lenses in a palaeovalley-type, sandstone-hosted deposit associated with the vertical and lateral movement of oxidation-reduction interfaces and hosted within the sediments of the broad-scale, buried Yarramba Palaeovalley (refer Figure 2). The sediments infilling the buried palaeovalley are approximately 70m below ground surface to a maximum depth of approximately 130m and filled by Paleogene-aged, fining up sequences of sand, interbedded silts and clays. The valley systems were incised into the surrounding country bedrock of the Willyama Supergroup, and drain into Lake Frome, northwest of the Project area. Structural interpretation from regional-scale geology and geophysics also indicated multiple cross-cutting structural features that could potentially create complexities in channel formation, such as offsets and jogs. These structural features would most likely be situated in the basement formations and also provide ideal conduits for reducing fluids and gases, such as hydrocarbons, to be transported upwards into the overlying sedimentary strata.

Drilling observations, during the 2018 infill and exploration campaigns, noted the appearance of an oily slick on the surface of the sump waters that was distinctly different from any drilling muds or fluids being used at the time. The appearance of hydrocarbons could also provide an additional control on mineralisation and is being considered as part of the model for future exploration.

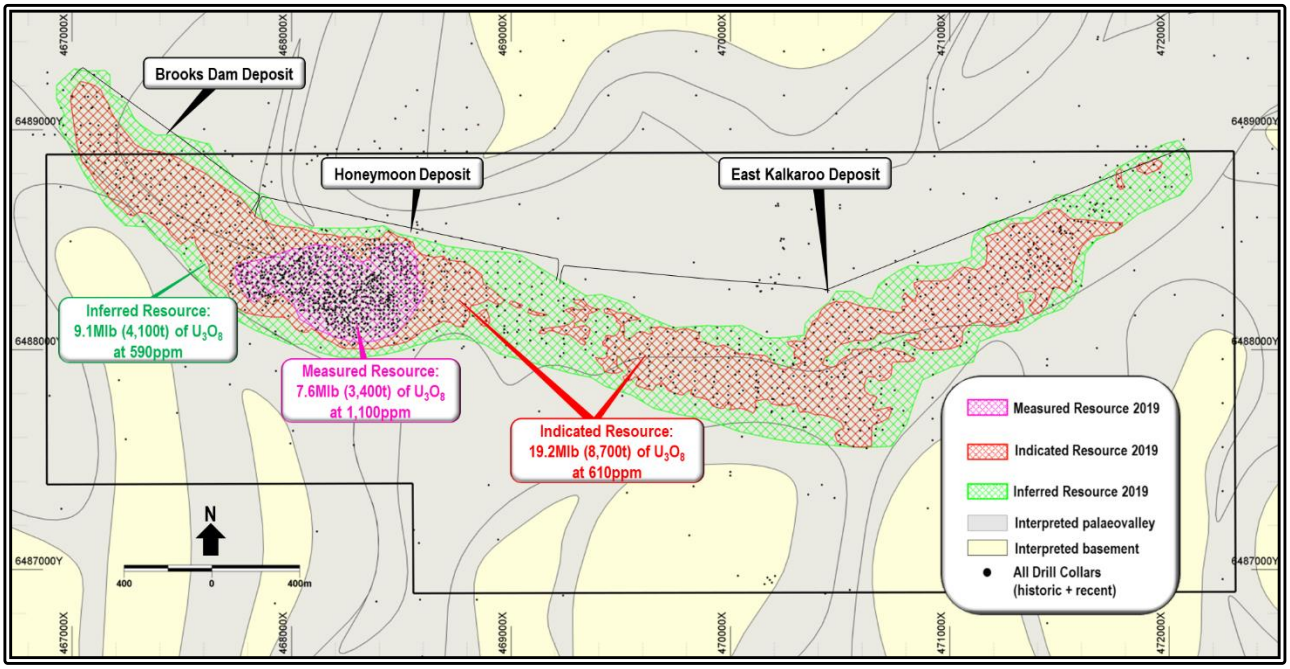


Figure 2: Honeymoon Re-Start Area – distribution of mineralisation

2019 Exploration Activities

Boss Resources seeks to employ the most advanced and cost-effective multi-disciplinary exploration alternatives to conduct large-scale exploration while increasing project value for shareholders. Taking into consideration the existing Mineral Resource to sustain Honeymoon's re-start of mining operations, and the current uranium price, the Company is pursuing cost effective alternatives to regional exploration in order to discover new economic mineral deposits.

Boss' 2019 exploration program will focus on passive seismic exploration in the Eastern Region (comprising tenements EL5621, EL 6081 and ML 6109), and an airborne survey over the Western Region (containing tenements EL 5622, EL 5623, EL 6020, and Retention Licences overlying Gould's Dam).

The Company looks forward to reporting on exploration results as programs are completed.

Eastern Region

In December 2018, Boss re-initiated exploration activities with a short ground-based gravity orientation survey over selected parts of the East Kalkaroo, Brook's Dam and Jason's Deposits.

Results successfully confirmed the position of the palaeovalley extents, as previously indicated by minor historic drilling. The gravity survey results and concurrent airborne EM data suggest the accumulation of conductive material on the shallower edges of the palaeovalley which, if this material is organic, may provide one explanation for the concentration of economic uranium mineralisation in these areas as opposed to the deeper parts of the palaeovalley.

Boss' 2019 exploration program will begin with a passive seismic orientation survey over the East Kalkaroo deposit and coincident with areas of existing drilling. The Passive Seismic method is a proven cost-effective exploration alternative used extensively throughout Australia for multiple mineral commodities and deposit types, with particular success in the identification of mineralised palaeochannels. The technique was first introduced to the Australian mineral exploration industry in 2013[4] with specific focus on the exploration of shallow, sub-surface, sediment-hosted deposits.

The objective of this survey is to create a deposit-specific depth-to-basement model using the known depths to basement from drilling and the new data acquired from the passive seismic survey. A topographic map of the basement surface subsequently produced should highlight areas of basement depression (likely narrow channels) within the broader palaeovalley system. If successful, the resulting depth-to-basement model will be applied to future regional passive seismic surveys in areas of little to no existing drilling, assisting with the identification of new potential drill targets.

[4] Readers are referred to the Geological Survey of Western Australia, Record 2014/09: "Application of passive seismic to estimate cover thickness in Greenfields areas of Western Australia - method, data interpretation and recommendations" (A.J. Scheib)

The additional surveys will be designed over target areas derived from a combination of EM, magnetics, radiometrics and gravity data.

Western Region

Proposed exploration activity for the western tenements is anticipated to commence with an airborne electromagnetic (AEM) survey, which has historically been shown to be the best, most cost-effective of the broad-scale geophysical surveys in the eastern tenements for aerial mapping of palaeochannel systems. The airborne work will then be, followed by ground-based geophysical programs (gravity and/or passive seismic) which will be designed on closer-spaced survey grids until enough data has been acquired, at a good enough resolution, to clearly identify targets for future drilling.

Basis for Exploration Target

The Exploration Target reported is an estimate only, as defined by JORC 2012 Clause 17, and has been made in order to show the potential scale of the identified target areas by using:

- historic drilling data;
- regional-scale geophysical surveys (ground-based gravity, airborne magnetic, electromagnetic and radiometric data), their respective depth-to-basement models and structural interpretation based on these datasets. The geophysical data were used to estimate maximum limits of the sedimentary formations capable of hosting mineralisation in areas of insufficient or no existing drilling data;
- recently developed understanding of mineralisation within the Honeymoon Re-Start Area and the associated geophysical characteristics (particularly from airborne EM), as well as the projection of this association into sparsely drilled areas with similar geophysical characteristics.

The Exploration Target is conceptual in nature, and the Company plans to test the Exploration Target via extensive scout drilling, followed by more focused infill drilling. It is uncertain whether future exploration will lead to the estimation of a Mineral Resource in the defined areas.

Mineralisation at Honeymoon is shown to be hosted within the unconsolidated sediments of the Eyre Formation, which comprises a series of upward-fining sedimentary sequences in palaeochannel limbs that once incised depressions into the surrounding, once-exposed basement. The Eyre Formation within this part of the Callabonna Basin is interpreted (through drilling) to be wholly contained within the broader-scale Yarramba Palaeovalley which, in turn, has been able to be modelled by close-spaced geophysics (such as gravity) and on a more regional scale by airborne EM. The volume of material used in this Exploration Target is estimated by averaging the downhole intercepts from drilling, using the lateral extents of the palaeochannel and palaeovalley features as interpreted from the regional geophysical data.

A large portion of the drilling dataset used in the estimation process consists of drillholes completed by different generations of explorers between 1972 and 2003. Due to the changing nature of project ownership and transfer of data between companies, it is not always possible to comment on the

accuracy of the uranium grades derived from the downhole logging, nor the quality of the sampling or drilling techniques used. However, based on a full review of the historical data and the recently announced (February 2019) upgraded Mineral Resource estimate for the Honeymoon Re-Start Area, Boss' Competent Person believes the data to be of sufficient quality and reliability to be indicative of uranium grades within each specified target area and has consequently used these data as the basis for the updated Exploration Target range.

The process used by the Competent Person in estimating the Exploration Target included the following:

- *Target Area Dimensions:* polygons outlining each target area were measured to establish average strike lengths and widths (becoming the maximum strike length and width of each target). A reduction factor, based on the style and type of target, was applied to each area to derive a minimum strike length and width. Thicknesses of each target area were derived from any existing drilling within each polygon. The minimum of each thickness value was multiplied by the minimum strike length and minimum width to calculate a minimum volume for each polygon (Table 3). This process was then repeated using the maximum strike length, maximum width and maximum thickness of the drilling intercept to establish a maximum volume for the target area.
- *Uranium grades:* the significant intersections from drilling within each target polygon were calculated using weighted averages. Maximum and minimum per target area displayed in the final Exploration Target table (Appendix 1, Tables 2 and 3) were taken from these significant intersections.
- *Bulk densities:* a Dry Bulk Density value of 1.71 t/m^3 has been used based on limited physical samples taken from sonic core drilling conducted at the Honeymoon and Jason's Deposits in 2017.
- *Cut-off grade, including the basis for the selected cut-off:* the project-wide review of all available drilling data found that the uranium grades were derived mostly from downhole gamma logging data. However, to maintain consistency with the lower cut-off value used for Mineral Resource estimates, a cut-off grade of 250 ppm U_3O_8 has been used in estimation of the current Exploration Target. As exploration progresses, this cut-off grade will be reviewed according to the acquisition of additional grade data through new drilling.

Refer to Appendix 1 for full details on estimation process and target descriptions.

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Competent Persons Statements

The information in this document that relates to the Honeymoon Project Exploration Results and Exploration Target is based on and fairly represents information provided by Ms Asha Rao, who is a Member of both the AusIMM and the Australasian Institute of Geoscientists (AIG). Ms Rao has sufficient experience that is relevant to the style of mineralisation, type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person, as defined in the JORC 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Ms Rao has over 14 years of experience and is a full-time employee as Geology Manager for Boss Resources Ltd. Ms Rao consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

The information in this announcement for the Gould's Dam and Jason's Deposit Mineral Resources is extracted from the reports released previously to market as entitled:

- ***SUBSTANTIAL INCREASE AND UPGRADE IN HONEYMOON URANIUM RESOURCE** [regarding the previous upgrade in Mineral Resource at Honeymoon], released on 20 January 2016 and available to view at: https://bossresources.com.au/wp-content/uploads/2016/02/160120-1-Honeymoon-resource-update-FINAL-4.pdf*
- ***BOSS INCREASES HONEYMOON URANIUM PROJECT RESOURCE BY 90% TO 53Mlbs U3O8** [regarding the most recent Mineral Resource estimate at Gould's Dam], released on 8 April 2016 and available to view on https://bossresources.com.au/wp-content/uploads/2016/04/160408-1-Goulds-Dam-Resources-Final-5.pdf*
- ***SUBSTANTIAL RESOURCE UPDATE FOR JASONS DEPOSIT** [regarding the most recent Mineral Resource at Jason's], released on 15 March 2017 and available to view on: https://bossresources.com.au/wp-content/uploads/2017/03/170315-1-Jasons-Resource-Upgrade-1-7.pdf*

The information in this announcement for the Honeymoon Re-Start Area Mineral Resources is extracted from the report released previously to market as entitled:

- ***149% INCREASE IN MEASURED & INDICATED MINERAL RESOURCES OVER HONEYMOON RE-START AREA**, released on 25 February 2019 and available to view on: https://bossresources.com.au/wp-content/uploads/2019/02/02078959.pdf*

Boss Resources Ltd confirms that it is unaware of any new information or data that materially affects the information contained within the original market annoucements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market annoucement continue to apply and have not materially changed. Boss Resources Ltd confirms that the form and context in which the Competent Person's findings are presented have not been materially modifed from the original market annoucements.

Appendix 1 – Honeymoon Uranium Project, 2019 Exploration Target Details

The following section provides a brief description of each target area that forms the 2019 updated Exploration Target estimate. Each target represents channel features of interest within the broader-scale Yarramba and Billeroo palaeovalley systems. Accordingly, the terms "palaeochannel" will be used to describe the elements of interest and the term "palaeovalley" used to refer to the broader system within which these targets are situated.

It should be noted that, while the grades of the following estimated Exploration Targets are lower than those previously reported in 2015, a large part of the mineralised material of the 2015 Exploration Target was converted from Exploration Target category to Mineral Resource category in the subsequent Mineral Resource updates[5]. The effect of this conversion was to reduce the amount of material available in subsequent Exploration Targets. However, the upgraded Exploration Target estimate of 2019 is larger than that reported in 2015, signifying that additional targets and potentially more economic material has been found. This, in turn, has resulted from the application of a slightly different exploration model developed from the reinterpretation and review of the Honeymoon drilling data.

Eastern Region – EL 5621, EL 6081

Target Area 1 – Yarramba North

The "Yarramba North" target area is situated 5.9km to the northwest of the Jason's Deposit, in the northern part of EL 5621. Regional-scale airborne EM data covering the Eastern Region tenements strongly indicate the likely meander and extension of the palaeochannel to the north and west of the Jason's Deposit (Jason's – Figure 6). Regional-scale magnetics data also suggest a possible extension of the channel limb to the west and meandering to a more southerly orientation along the tenement boundary. Radiometric data indicate a potential cross-cutting feature orientated NE-SW, the northern part of which coincides with some of the high-grade mineralisation intersected in the Jason's Deposit. Existing drilling indicates that the high-grade mineralisation of Jason's remains open to the northwest and southeast of the deposit. Two drillholes intersected mineralisation of good tenor and grade, the best being in drillhole YAR012 which returned **0.75m @ 520 ppm U_3O_8 from 83.00m**. Three other drillholes were drilled historically within the target area however two of these holes (Y11BW and Y06C) failed to intersect mineralisation and are situated approximately 870 metres apart. Current interpretation of the mineralisation at Jason's indicates that the system is between approximately 200 and 800 metres in width, which in turn suggests that both Y11BW and Y06C were spaced too widely apart and missed the narrower channel target. Host to mineralisation is light grey to grey, reduced, fine-grained sands (Figure 7). Structural interpretation derived from EM, geology and magnetics data indicate possible NNW-SSE trending structures that may have created a "jog" in the channel system,

[5] Refer to ASX announcements dated 8 April 2016, 15 March 2017 and 25 February 2019

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whereas coincident structural intersection and high grade mineralisation within Jason's suggests that structure might be an additional control on uranium mineralisation within the region.

The Yarramba North target has a strike length of approximately 4.6km and a strike width of approximately 1.6km. The estimated **Exploration Target is 4.20 to 14.70 Mt for an estimated contained 9.50 – 10.90 Mlbs U_3O_8 at grades between 450 and 520 ppm U_3O_8**.

Target Area 2 – Jason's South

Target Area 2, or "Jason's South", is situated approximately 4 km to the southeast of the main Jason's Deposit. The airborne EM data (Figure 6) provide a strong indication that there is a channel limb that extends in a more easterly orientation to the southeast of Jason's. The objective of Target Area 2 is to test this hypothesised extension for potential continued uranium mineralisation. Structural interpretation from coincident datasets show predominantly N-S trending features that may have created offsets and "jogs" within the palaeochannel limb. Airborne magnetic data show a moderately magnetic feature that correlates well with the orientation of the Jason's Deposit and also indicates a potential channel extension. Nine holes have been drilled historically within this target area, with one of the holes drilled by Southern Cross in 2002. Five of the holes (580-030, 580-031, H441, YBH1 and YBH2) returned intersections of grades greater than the 250 ppm lower cutoff value, but were situated on the western edge of the target area. The best significant intersection from this drilling was in hole 580-033 which returned **0.30 m @ 1,700ppm U_3O_8 from 98.70m** in weakly oxidised to weakly reduced, micaceous to clean quartz sands. Sparsely distributed historical drilling elsewhere in the target area failed to intersect mineralisation. These holes, however, appear to have been simply scout test holes that were not designed in a fence-line or cluster and so missed the intended channel limb target, leaving the area relatively untested.

Jason's South has a strike length of approximately 3km and width of approximately 1.6km. The estimated **Exploration Target is 1.40 to 14.50 Mt containing an estimated 5.80 – 28.20 Mlbs U_3O_8 at grades between 350 and 1,700 ppm U_3O_8**.

Target Area 3 - Yarramba

The objective for Target Area 3, or "Yarramba", is to test the northern extension of the mineralisation at Brooks Dam, with the ultimate aim of potentially increasing tonnes and grade of the Mineral Resource estimate for the Honeymoon Re-Start Area. Historical drilling tested a possible area of extension to the northwest of the Brooks Dam Deposit but failed to intersect any significant mineralisation there. Additional drilling targeted a N-trending limb of the palaeochannel, directly north of Brook's Dam, and intersected mineralisation of both good grade and tenor, hosted in weakly reduced, coarse sands. The results strongly indicated that there had been a diversion in the palaeochannel system to a more northerly orientation. Regional magnetics (Figure 8) show a NE-SW trending feature that may have been responsible for the change in channel orientation. Structural

interpretation from the regional geophysical and geological datasets (including radiometrics) show a predominant NW-SE orientation in possible structural elements with intersecting NE-SW structures. The interplay of structural elements is likely to have resulted in the changed channel orientation. Drilling at Brook's Dam revealed that the mineralised system is between 250 to 300m in width. Several holes have been drilled historically within this target area however the wide hole spacing would suggest that the target channel had been missed as opposed to the non-existence of a mineralised system there. The structural interpretation also suggests two zones of intersection that have not yet been drill tested and could be the loci of high-grade uranium accumulation. The best significant intercept from the Yarramba target area came from hole SE012 which returned **0.5m @ 1,236 ppm U_3O_8 from 84.75m.**

The strike length and width of Yarramba are approximately 2.2km and 2.4km, respectively. The estimated **Exploration Target is 2.90 – 15.20 Mt containing an estimated 6.00 – 25.30 Mlbs U_3O_8 at grades between 310 and 1,310ppm U_3O_8**.

Target Area 4 – Kalkaroo

Target Area 4, or "Kalkaroo", is a large area of NE-SW orientation, covering the area to the northeast of the East Kalkaroo Deposit (Figure 6) and measuring approximately 5.7km in strike length and 1.9km in strike width. The objective of the target area is to test for a potential northeastern extension of the East Kalkaroo mineralisation, with the ultimate aim of potentially increasing tonnes and grade of the Mineral Resource estimate for the Honeymoon Re-Start Area. In 2001, an internal Channel Definition report was compiled by Southern Cross Resources in which an isopach map was constructed for each facies within the Eyre Formation (the host to mineralisation at Honeymoon). The resulting image revealed that the majority of the uranium mineralisation coincided with the contacts between the 35-40m, 40-45m and 45-50m isopachs, which is interpreted to represent the slopes and embankments of the broader-scale palaeovalley. Exploration drilling undertaken in the latter half of 2018 included 4 fence-lines intended to follow-up high-grades intersected in one of the historical holes situated in the southwestern corner of the Kalkaroo target area. However, the rate of intersection success was not as high as expected and, based on post-program review, it was reasoned that the drilling had missed the aforementioned slopes and banks of the channel, features which are also coincident with the edge of high magnetic response as shown on the regional airborne magnetics data. Structural interpretation indicates predominant NW-SE trending structures, multiple cross-cutting NE-SW structural features and multiple zones of potential trap sites. The apparent interplay of structures in the region may have influenced fluid flow of uraniferous groundwaters and the subsequent precipitation of mineralisation.

The best assay from the drilling testing uranium targets came from drillhole MTC056 which returned **1.00 m @ 1,437 ppm U_3O_8 from 105.50 m** in moderately sorted, coarse to very coarse quartz sands. A large amount of drilling was conducted further to the northeast within the Kalkaroo area, targeting the same large area of high magnetism for base metal mineralisation. The area therefore remains largely untested for uranium.

The estimated **Exploration Target for Target Area 4 is 6.00 to 36.70 Mt for an estimated contained uranium content of 13.30 – 65.20 Mlbs U_3O_8 at grades between 295 and 1,440 ppm U_3O_8**.

Target Area 5 – Lawlor Dam

The "Lawlor Dam" target area is situated approximately 11km east of the East Kalkaroo Deposit and covers a coincident change from NE-SW to more N-S in palaeovalley orientation (as suggested by airborne EM – Figure 6), an apparent depression in the basement surface (as indicated by airborne magnetics), interpreted cross-cutting NE-SW and NW-SE structures and wide-spaced historical drilling that returned **grades of more than 2,000 ppm U_3O_8**. The best significant intersection from this drilling was in hole YAM017, which **returned 0.5m @ 1,112 ppm U_3O_8 from 124.00 m**, hosted in clean, medium-grained quartz sands in a weak redox zone. The Yarramba Palaeovalley appears to be broad in width within the target area, with zones of structural intersection creating potential trap sites for the accumulation of economic uranium mineralisation. Airborne radiometrics also show a faint response in this area, which also suggests the possible existence of uranium accumulation within the target area.

The objective of Target Area 5 is thus to further define the mineralised system that is strongly indicated by all available datasets, as described above. Target dimensions are approximately 4.1km in strike length and 2.5km in width.

Estimated Exploration Target size for Lawlor Dam is **6.00 to 36.20 Mt for an estimated contained uranium content of 16.50 – 49.50 Mlbs U_3O_8 at grades between 370 and 1,110 ppm U_3O_8**.

Target Area 6 – Kalkaroo South

Target Area 6, or "Kalkaroo South", is situated immediately adjacent and to the west of the eastern boundary of EL 5621 (Figures 6 and 8) and the Saffron (Uranium) Deposit, part of the larger Junction Dam Project which is wholly owned by Marmota Energy. Kalkaroo South is approximately 2.9km in strike length and 2.8km in width, was previously interpreted as a potential extension to the Saffron Deposit and has been historically tested by minor scout exploration drilling. Three holes (580-084, MTC144 and MTC147) were drilled on the eastern-most edge of the target area and returned intercepts greater than the 250 ppm U_3O_8 cut-off used in the estimation process, however these holes were widely spaced and may have missed a potentially narrower channel feature. The best intercept received was from hole 580-084 which returned **1m @ 403ppm U_3O_8 from 105.96m**. Historic airborne EM data show conductive features between 90 and 115m depth below surface and a possible channel offset on the 90 – 95m EM depth slice image. The rest of the target area remains largely untested by drilling and open for future exploration, particularly over the area of suggested channel offset.

An assumed minimum grade of 250 ppm U_3O_8 is assumed for the area as the grades returned by the other drillholes were below this lower cut-off grade. The estimated **Exploration Target for Kalkaroo South is 7.00 to 16.20 Mt containing and estimated 7.00 – 11.10 Mlbs U_3O_8 at grades between 250 and 400 ppm U_3O_8**.

Target Area 7 – Mundianna

Target Area 7, or "Mundianna", is approximately 3.4km in strike length and 1.9km in width. The target is relatively small in size and based purely on a faintly conductive response observed from regional-scale, historical airborne EM data (Figure 6). This response indicates a potential N-S trending channel limb extending south of the currently known Yarramba Palaeovalley, and has to date remained untested. Structural interpretation from the EM data suggest a potential intersection of a major, regional-scale NNW-SSE orientated fault and a smaller ENE-WSW trending structural lineament. The possible cross-cutting structures could create a potential trap-site for subsequent accumulations of uranium mineralisation. The majority of drilling in the southern part of El 5621 has historically been focused on base metal exploration due to the proximity with outcropping igneous basement rocks. However, channels can often form along the edges of uplifted basement, particularly as they can more easily erode into the softer lithologies of the surrounding country rock. The area remains prospective for exploration and has thus be included as a target area in this exercise.

The Mundianna target is defined purely as a geophysical target based on anomalies observed from regional airborne geophysical data. Due to the lack of existing drilling within the target area, no Exploration Target has been derived.

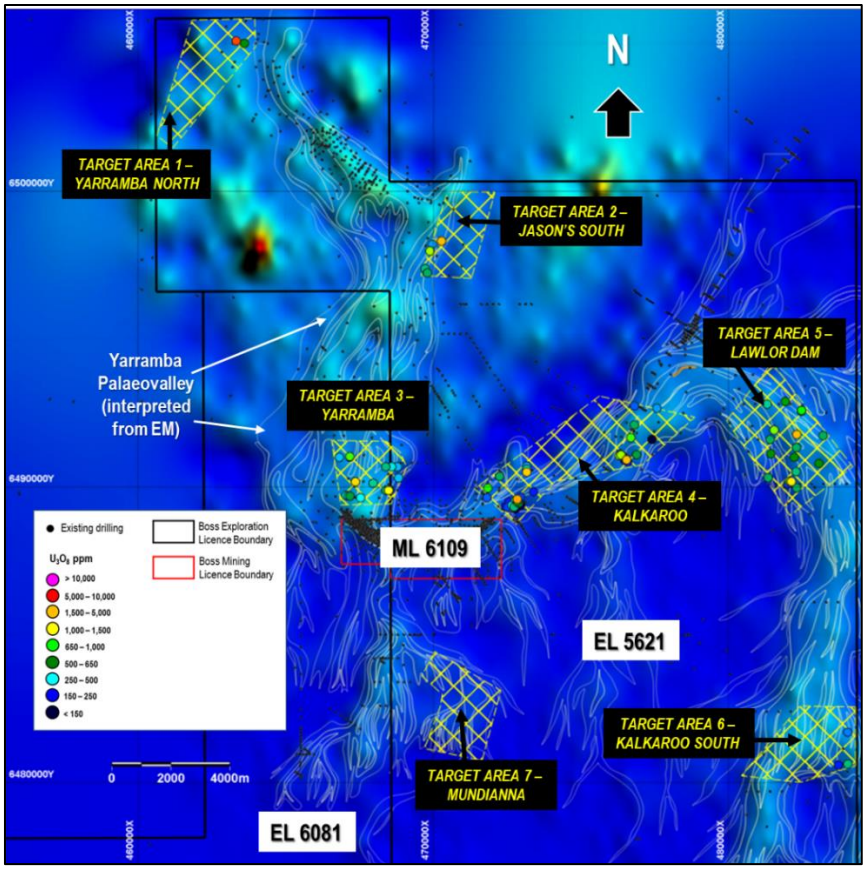


Figure 6: Exploration Targets of the Eastern Region, showing areas of possible extension and new target identification overlain on regional EM depth slice (90 – 95m depth below ground level)

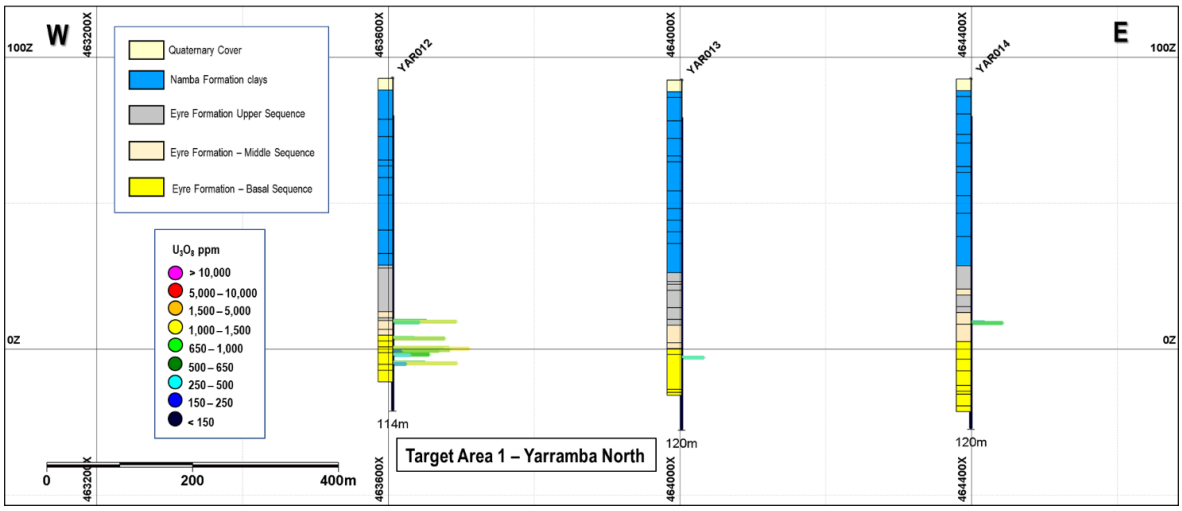


Figure 7: Example cross-section from Target Area 1, Yarramba North (looking north)

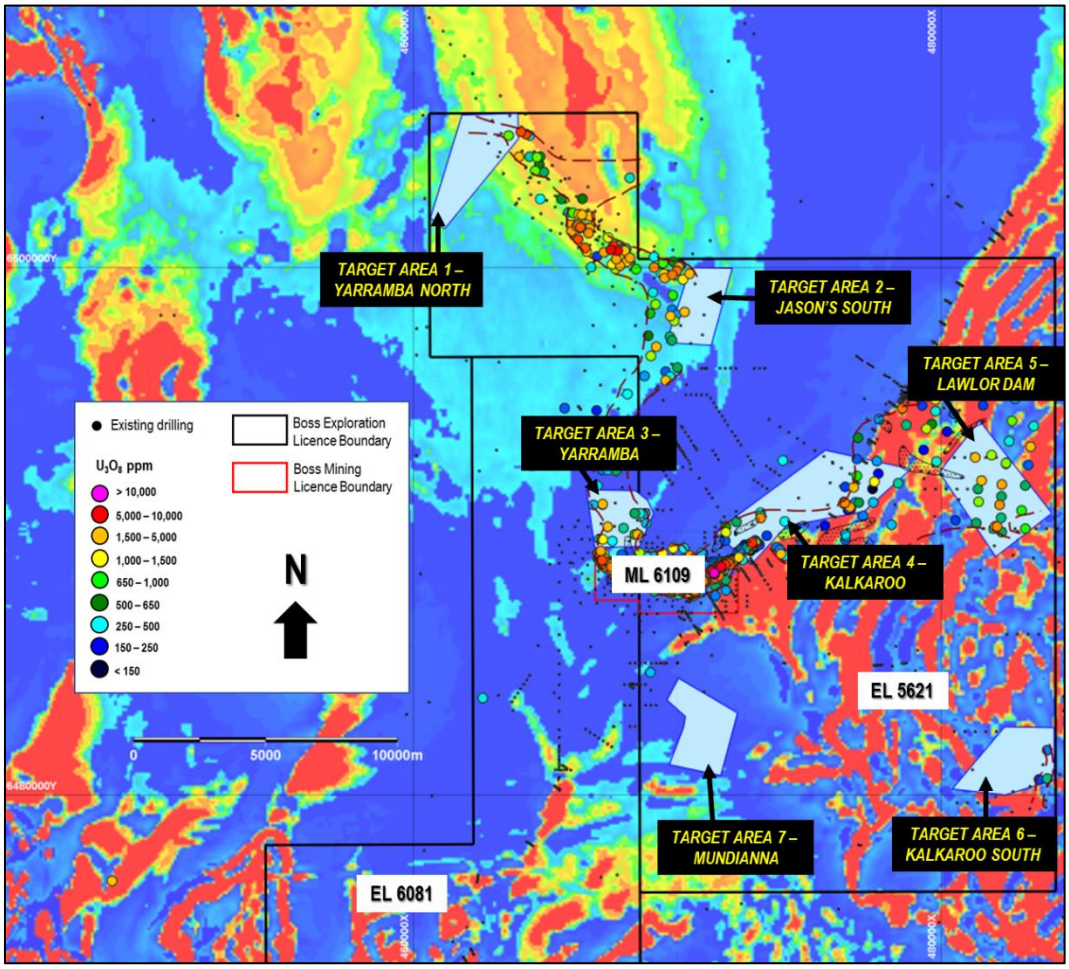


Figure 8: Exploration Targets of the Eastern Region, showing areas of possible extension and new target identification overlain on regional-scale Total Magnetic Intensity (with the first vertical derivative applied)

Western Region – EL 5623, EL 5622, EL 6020

Target Area 8 – Billeroo North

The "Billeroo North" area (Target Area 8) is situated approximately 15km north of the Gould's Dam resource area. The target measures approximately 5.2km in strike length and 2km in width and is designed to test a possible offset in channel, as suggested by both regional-scale EM and magnetics data (Figures 9 and 10). Historical drilling was conducted in the 1970s and 1990s to the immediate west of the target area, apparently designed to test for mineralised channel extensions in the apparent channel feature seen on the EM. No mineralisation was intersected by this drilling however, while it can be argued that these holes effectively closed off the channel system to the north, regional geophysical data and the apparent intersection of structural features (interpreted from both EM and magnetics) indicate a possible dextral offset of the channel system to the east of the historical drilling. This particular area has not been tested by any drilling and is therefore work exploring further.

As no drilling has been conducted within Billeroo North, there is no data from which to derive an Exploration Target. The target area is therefore considered to be based on a purely geophysical anomaly.

Target Area 9 – Katchwilleroo South

Airborne EM suggests a NE-SW trending, broad-scale channel or valley feature that extends to the southwest from Billeroo North. Target Area 9, or "Katchwilleroo South", covers the southern extent of the apparent channel or valley limb, measuring approximately 11.4km in strike length and 5km in width. The target remains largely untested as there are only two holes that have been drilled into this feature. One of the drillholes appears to have been a diamond core hole that did not return any significant mineralisation however the interplay of structures interpreted from regional EM and magnetics suggest multiple areas of intersection between predominantly N-S and cross-cutting NE-SW elements. The same channel, or valley, depression is observed from the airborne magnetics data (Figures 9 and 10) providing two coincident datasets in which the same feature is observed. Further exploration is warranted here to determine the nature of this depression and identify any potentially economic accumulations of uranium mineralisation.

Not enough drilling exists within Katchwilleroo South upon which to confidently base an Exploration Target, and thus no Exploration Target has been estimated for this particular area. Target Area 9 is therefore deemed to be purely based on a geophysical anomaly.

Target Area 10 – Lake Mary

The objective of the "Lake Mary" target, or Target Area 10, is to investigate an area of suggested E-W trending basement depression observed on airborne EM data (Figures 9 and 10) which is also coincident with the edge of a highly magnetic and low-moderate magnetic response similar to that underlying the high-grade areas of the Jason's Deposit. This coincidence in datasets could suggest a possible analogue to the Jason's Deposit in the western tenements. The magnetic anomaly observed in this area could be the edge of shallow, or uplifted, igneous basement along which a channel may have formed. Part of this igneous basement is interpreted historically as the Mesoproterozoic granitoids that also host the Crocker Well Uranium Deposit, approximately 32 kilometres to the southeast of the target area. These granites, also known as the Crocker Well granites, may well be the source rocks for the uranium mineralisation within the area. This, in turn, suggests a potential proximity to source for any uranium mineralisation situated within the Lake Mary target. A **rock chip sample assaying 2.5% U_3O_8** was collected historically from Spring Hill, strengthening the hypothesis that this could be the source of localised uranium mineral accumulations.

The target area is approximately 14km in strike length and 3.2km in width. No drilling exists within the area defined as Lake Mary which leaves the area untested for uranium. Sparsely distributed drilling has been undertaken historically in areas surrounding the target, however these holes predominantly target base metal mineralisation and again indicate that the area remains untested for uranium.

As no drilling has been conducted within the target area, there is no data from which to derive an Exploration Target. Lake Mary is therefore purely based on anomalies observed from regional-scale geophysics.

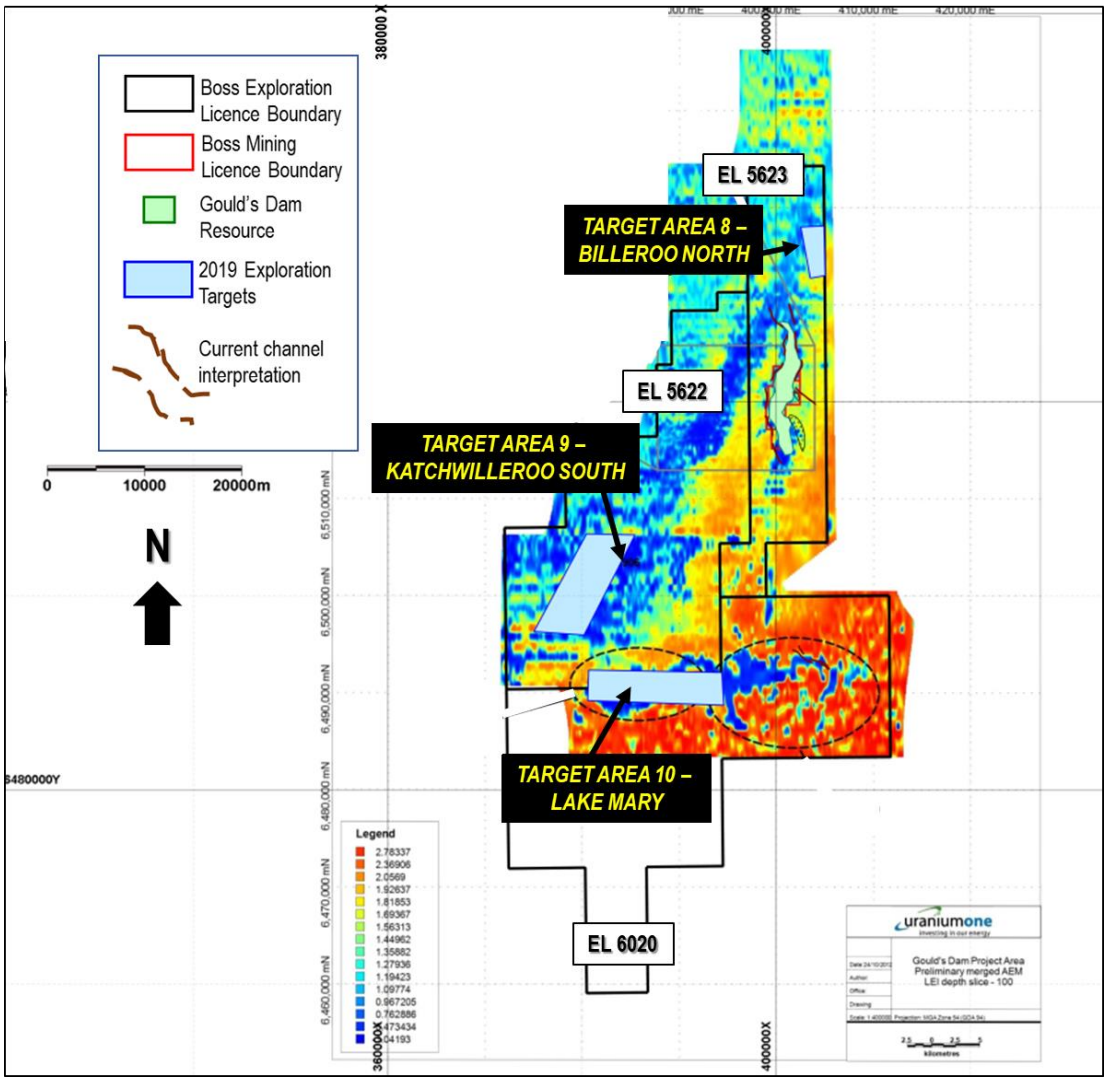


Figure 9: Exploration Targets of the Western Region, overlain on a Layered Earth Inversion (LEI) depth slice (100 metres) of merged AEM datasets (modified from Uranium One, 2012)

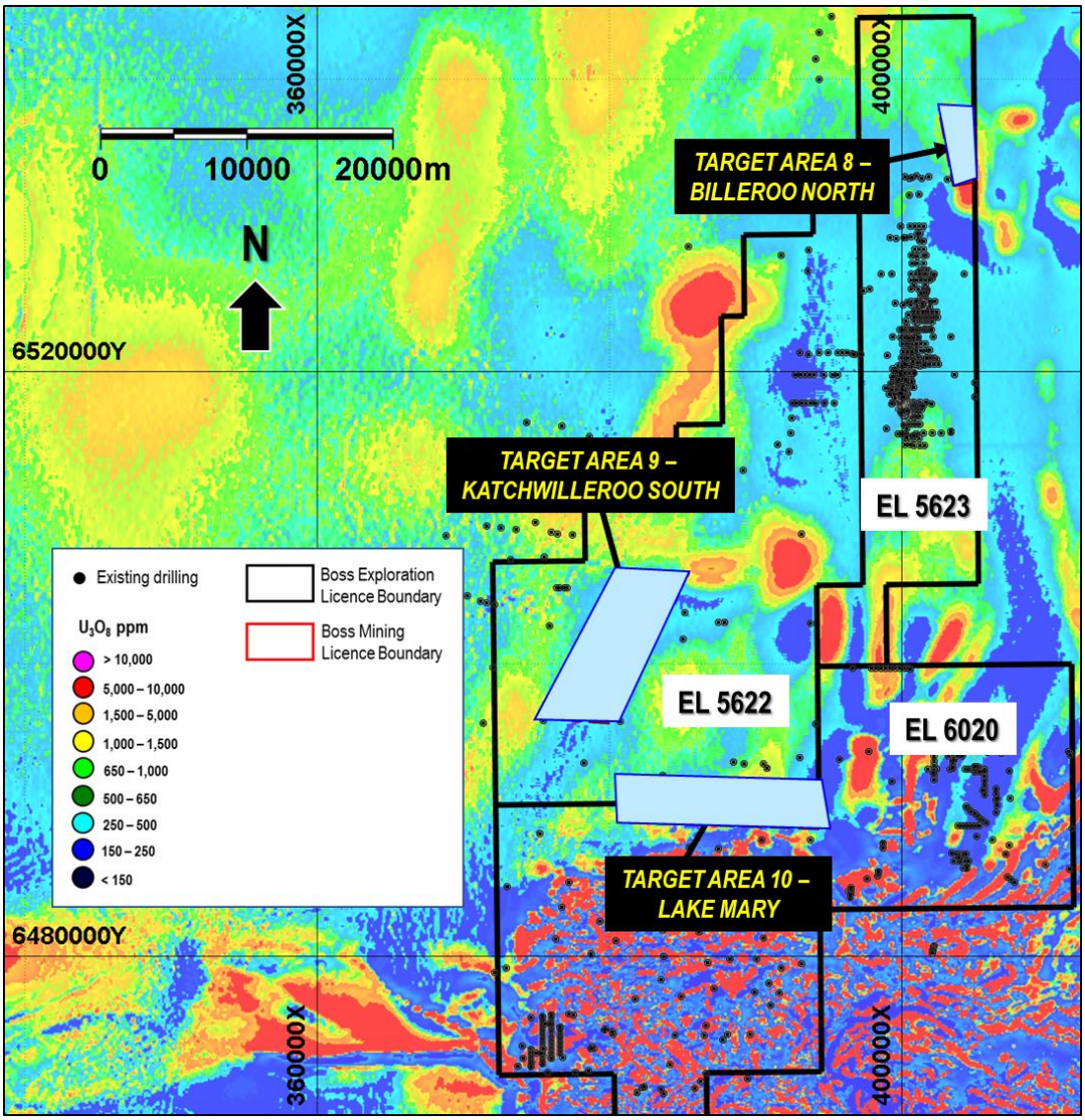


Figure 10: Exploration Targets of the Western Region, overlain on a first vertical derivative map of the regional-scale Total Magnetic Intensity (TMI) data.

Table 1: Exploration Target Descriptions – Honeymoon Uranium Project

Area	Target Area ID	Maximum grade intersected to date	Target Size Category	Target Objective	Existing Data Distribution / Quality*
YARRAMBA NORTH	**1**	**YAR012: 0.75 m @ 520 ppm U3O8 from 83 m**	Medium	To test a potential northern extension of the Jason's Deposit, observed from coincident drilling, EM+ magnetics, all suggesting possible meandering of system towards west + south.	High quality, low density
JASON'S SOUTH	**2**	**580_033: 0.3 m @ 1700 ppm U3O8 from 98.7 m**	Small	Testing a potential southern continuation of the Jason's Deposit, strongly suggested by coincident EM + drilling + magnetics. Possible jog in channel feature (fault?), indicated from EM interpretation.	High quality, low density
YARRAMBA	**3**	**SE012: 0.5 m @ 1236 ppm U3O8 from 84.75 m**	Small	To test a strong EM response between 90-115m depth. Existing drilling suggests change in mineralised channel orientation to more N-S. Intersecting NW-SE + NE-SW structures. Possible channel offset.	High quality, high density
KALKAROO	**4**	**MTC056: 1 m @ 1437 ppm U3O8 from 105.5 m**	Large	Tests NE extension of known mineralised channel (East Kalkaroo) and interpreted channel embankments. Covers coincident EM + magnetic-high anomaly. Predominant NW-SE structures, multiple intersecting structures, zones of potential trap sites, possible offsets in channel influencing flow/ precipitation of U. Drilling further to NE mostly for base metals therefore area remains largely untested for uranium.	High quality, high density
LAWLOR DAM	**5**	**YAM017: 0.5 m @ 1112 ppm U3O8 from 124 m**	Medium	Designed to test strong EM response (90-115m). Existing drilling suggests change in mineralised channel orientation to more N-S, intersecting NE-SW + NW-SE structures. Palaeovalley seems broad, structural intersections possibly create potential trap sites for U mineralisation. Faint N-S trending radiometric response.	High quality, medium density
KALKAROO SOUTH	**6**	**580_084: 1 m @ 403 ppm U3O8 from 105.96 m**	Medium	To explore interpreted extension to Marmota Energy's Saffron Deposit. Widely-spaced drilling, NW-SE/ NE-SW intersecting structures. Strong EM responses (90-115m), suggested channel extensions and channel offsets. Faint N-S trending radiometric response.	Medium quality, low density
MUNDIANNA	**7**	**No drilling within actual target area**	Small	Investigates a pure EM anomaly - faint response indicating potential N-S trending, southern arm of Yarramba palaeovalley	Medium quality, untested (density not applicable)
BILLEROO NORTH	**8**	**No drilling within actual target area**	Small	Target tests possible offset feature indicated by regional magnetics, NNE-SSW trending structures from Layered Earth Inversion (LEI) image of AEM (Uranium One). Remains untested.	Low quality, untested (density not applicable)
KATCHWILLEROO SOUTH	**9**	**Only 1 drillhole, target untested.**	Large	Investigates sparsely distributed drilling within area of apparent basement depression, as indicated by LEI imaging of EM data. Predominant N-S structures, and intersecting NE-SW structures.	Low quality, very low density (1 hole, target untested)
LAKE MARY	**10**	**No drilling within actual target area**	Large	Tests a potential area of EW basement depression on LEI of AEM image, which coincides with the edge of high/low-moderate magnetics similar to that underlying the high grade portion of Jason's deposit. Predominant NS features (structures), intersecting NE-SW structures	Low quality, untested (density not applicable)

***denotes quality of existing drilling and geophysical data**

Table 2: Honeymoon Uranium Project Target Estimations (*see notes after Table 3*)

Tenement ID	Area	Target Area ID	Exploration Category	Estimated Grade (ppm U_3O_8)		Estimated Tonnage (Mt)		Estimated Exploration Target Range (Mlb)	
				Min	Max	Min	Max	Min	Max
El 5621	**YARRAMBA NORTH**	**1**	**B**	450	520	4.20	14.70	9.50	10.90
El 5621	**JASON'S SOUTH**	**2**	**B**	350	1700	1.40	14.50	5.80	28.20
EL 6081	**YARRAMBA**	**3**	**A, B**	310	1310	2.90	15.20	6.00	25.30
El 5621	**KALKAROO**	**4**	**A, B**	300	1440	6.00	36.70	13.30	65.20
El 5621	**LAWLOR DAM**	**5**	**C**	370	1110	6.00	36.20	16.50	49.50
El 5621	**KALKAROO SOUTH**	**6**	**C**	250	400	7.00	16.20	7.00	11.10
El 5621	**MUNDIANNA**	**7**	**E**						
EL 5623	**BILLEROO NORTH**	**8**	**D**						
EL 5622	**KATCHWILLEROO SOUTH**	**9**	**C**						
EL 5622 / EL 6020	**LAKE MARY**	**10**	**D**						
Total				**340**	**1080**	**28**	**133**	**58**	**190**

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Table 3: Target details used in estimation of Exploration Target

Area	Target Area ID	Exploration Category	Approx. Strike Length (m)			Approx. Area Strike Width (m)			Thickness of U_3O_8 (m)*			Average Dry Bulk Density - t/m³
			Min	Max	Approx.	Min	Max	Approx.	Min	Max	Ave	
YARRAMBA NORTH	1	B	3190	5020	4560	1550	1710	1630	0.50	1.00	0.80	1.70
JASON'S SOUTH	2	B	2100	3300	3000	1550	1710	1630	0.30	1.50	0.90	1.70
YARRAMBA	3	A, B	1510	2380	2160	2250	2490	2370	0.50	1.50	1.00	1.70
KALKAROO	4	A, B	3980	6250	5680	1780	1960	1870	0.50	1.80	1.10	1.70
LAWLOR DAM	5	C	2900	4550	4140	2400	2660	2530	0.50	1.80	1.10	1.70
KALKAROO SOUTH	6	C	2040	3200	2910	2680	2960	2820	0.80	1.00	0.90	1.70
MUNDIANNA[a]	7	E	2350	3700	3360	1770	1950	1860	0.00	0.00	0.00	1.70
BILLEROO NORTH[a]	8	D	3650	5740	5220	1990	2200	2090	0.00	0.00	0.00	1.70
KATCHWILLERO O SOUTH[a]	9	C	7990	12560	11420	4780	5280	5030	0.00	0.00	0.00	1.70
LAKE MARY[a]	10	D	9720	15270	13880	3090	3410	3250	0.00	0.00	0.00	1.70

Notes for Tables 2 and 3:

** Average grades taken from drill results in Table 4*
*** Average thickness values taken from drill results in Table 4*
**** Average Dry Bulk Density value taken from limited core samples collected from sonic core holes drilled at Honeymoon and Jason's Deposits in 2017.*

a - THESE TARGETS DO NOT CONTAIN ANY DRILLING FROM WHICH TO CALCULATE TONNAGES AND GRADES, THEREFORE NO EXPLORATION TARGETS HAVE BEEN ESTIMATED

Exploration Categories:

A - drilling in order to increase/improve Mineral Resource category and/or improve metallurgical understanding through core sampling programs
B - drilling along, or across, strike, of the deposit to test mineralisation extensions in areas that remain open
C - drilling to follow-up previously poorly-tested geophysical / geochemical targets
D - drilling of a previously untested geophysical / geochemical target that is observed in 2 or more coincident datasets
E - drilling of a previously untested geophysical / geochemical target that is isolated and observed in only 1 single dataset

Table 4: Historical drilling results for Honeymoon Uranium Project Exploration Target 2019

Target Area ID	Target Area	Drill Type	Hole Depth	Easting GDA94	Northing GDA94	MGA RL	Dip (°)	Azimuth (°)	From (m)	To (m)	Length (m)	Interval Grade (U_3O_8 ppm)	Average Grade (U_3O_8 ppm)	Average Thickness (m)	Min Grade (U_3O_8 ppm)	Max Grade (U_3O_8 ppm)	Description
1	Yarramba North	RM	114	463604	6505001	93	-90	0	83	83.75	0.75	519	485	0.75	450	519	**YAR012: 0.75 m @ 519.41 ppm U3O8 from 83 m**
1	Yarramba North	RM	114	463604	6505001	93	-90	0	88.75	89.25	0.5	450					**YAR012: 0.5 m @ 449.77 ppm U3O8 from 88.75 m**
1	Yarramba North	RM	114	463604	6505001	93	-90	0	92.25	93.25	1	815					**YAR012: 1 m @ 815.37 ppm U3O8 from 92.25 m**
1	Yarramba North	RM	114	463604	6505001	93	-90	0	97.25	98	0.75	486					**YAR012: 0.75 m @ 486.49 ppm U3O8 from 97.25 m**
2	Jason's South	RM	118.87	470277	6498315	101	-90	0	93.9	94.2	0.3	700	1025	0.90	350	1700	**580_025: 0.3 m @ 700 ppm U3O8 from 93.9 m**
2	Jason's South	RM	125.6	469791	6497235	105	-90	0	85.9	86.8	0.9	350					**580_030: 0.9 m @ 350 ppm U3O8 from 85.9 m**
2	Jason's South	RM	118.87	469885	6497973	103	-90	0	80.1	80.6	0.5	500					**580_031: 0.5 m @ 500 ppm U3O8 from 80.1 m**
2	Jason's South	RM	118.87	469885	6497973	103	-90	0	110.9	112.4	1.5	900					**580_031: 1.5 m @ 900 ppm U3O8 from 110.9 m**
2	Jason's South	RM	113.39	470464	6499764	99	-90	0	94.5	94.75	0.25	800					**580_033: 0.25 m @ 800 ppm U3O8 from 94.5 m**
2	Jason's South	RM	113.39	470464	6499764	99	-90	0	98.7	99	0.3	1700					**580_033: 0.3 m @ 1700 ppm U3O8 from 98.7 m**
2	Jason's South	RM	110	469797	6497234	105	-90	0	85.75	86.25	0.5	422					**YBH1: 0.5 m @ 422 ppm U3O8 from 85.75 m**
2	Jason's South	RM	104	469722	6497378	105	-90	0	96	96.75	0.75	405					**YBH2: 0.75 m @ 405.33 ppm U3O8 from 96 m**
3	Yarramba	RM	112	467172	6491028	117	-90	0	97	98.25	1.25	780	772	1.00	307	1311	**H450: 1.25 m @ 779.8 ppm U3O8 from 97 m**

Target Area ID	Target Area	Drill Type	Hole Depth	Easting GDA94	Northing GDA94	MGA RL	Dip (°)	Azimuth (°)	From (m)	To (m)	Length (m)	Interval Grade (U_3O_8 ppm)	Average Grade (U_3O_8 ppm)	Average Thickness (m)	Min Grade (U_3O_8 ppm)	Max Grade (U_3O_8 ppm)	Description
3	Yarramba	RM	120	467167	6491005	117	-90	0	84.75	85.25	0.5	1236					**SE012: 0.5 m @ 1235.5 ppm U3O8 from 84.75 m**
3	Yarramba	RM	120	467167	6491005	117	-90	0	93.5	94.75	1.25	616					**SE012: 1.25 m @ 615.6 ppm U3O8 from 93.5 m**
3	Yarramba	RM	120	467167	6491005	117	-90	0	94	94.5	0.5	1003					**SE012: 0.5 m @ 1003 ppm U3O8 from 94 m**
3	Yarramba	RM	131	467042	6489710	118	-90	0	99	99.75	0.75	264					**SE024: 0.75 m @ 263.67 ppm U3O8 from 99 m**
3	Yarramba	RM	116	467177	6489690	118	-90	0	100.25	101.75	1.5	277					**SE150: 1.5 m @ 277.17 ppm U3O8 from 100.25 m**
3	Yarramba	RM	116	467177	6489690	118	-90	0	107	108.25	1.25	1030					**SE150: 1.25 m @ 1030.2 ppm U3O8 from 107 m**
3	Yarramba	RM	116	467362	6490170	116	-90	0	98	99.5	1.5	1311					**SE151: 1.5 m @ 1311.33 ppm U3O8 from 98 m**
3	Yarramba	RM	121.5	468487	6489880	119	-90	0	101.5	102.5	1	1038					**SE196: 1 m @ 1037.5 ppm U3O8 from 101.5 m**
3	Yarramba	RM	121.7	468587	6490680	117	-90	0	87.5	88.25	0.75	307					**SE198: 0.75 m @ 307.33 ppm U3O8 from 87.5 m**
3	Yarramba	RM	121.5	468387	6490680	116	-90	0	73.25	74	0.75	394					**SE202: 0.75 m @ 394 ppm U3O8 from 73.25 m**
4	Kalkaroo	RM	131.39	476811	6492098	112	-90	0	120.5	121.5	1	431	866	1.13	295	1437	**580_077: 1 m @ 431 ppm U3O8 from 120.5 m**
4	Kalkaroo	RM	132	472783	6489553	118	-90	0	119	120	1	361					**BIF0185: 1 m @ 361.25 ppm U3O8 from 119 m**
4	Kalkaroo	RM	132	472838	6489496	118	-90	0	125	126.5	1.5	541					**BIF0186: 1.5 m @ 540.5 ppm U3O8 from 125 m**
4	Kalkaroo	RM	134	472886	6489451	118	-90	0	115.5	116.25	0.75	417					**BIF0187: 0.75 m @ 417.33 ppm U3O8 from 115.5 m**
4	Kalkaroo	RM	134	472886	6489451	118	-90	0	117.75	118.75	1	295					**BIF0187: 1 m @ 294.75 ppm U3O8 from 117.75 m**

Target Area ID	Target Area	Drill Type	Hole Depth	Easting GDA94	Northing GDA94	MGA RL	Dip (°)	Azimuth (°)	From (m)	To (m)	Length (m)	Interval Grade (U_3O_8 ppm)	Average Grade (U_3O_8 ppm)	Average Thickness (m)	Min Grade (U_3O_8 ppm)	Max Grade (U_3O_8 ppm)	Description
4	Kalkaroo	RM	120	472733	6489319	119	-90	0	109.75	111.5	1.75	400					**BIF0198: 1.75 m @ 400 ppm U3O8 from 109.75 m**
4	Kalkaroo	RM	132	476524	6490908	113	-90	0	114	115.5	1.5	288					**BIF0207: 1.5 m @ 288.33 ppm U3O8 from 114 m**
4	Kalkaroo	RM	132	476296	6491059	113	-90	0	119.75	120.25	0.5	899					**BIF0209: 0.5 m @ 899 ppm U3O8 from 119.75 m**
4	Kalkaroo	RM	126	471842	6489959	118	-90	0	106.75	107.5	0.75	720					**H359: 0.75 m @ 720 ppm U3O8 from 106.75 m**
4	Kalkaroo	RMC	120	472244	6490356	116	-90	0	89	89.5	0.5	322					**H412: 0.5 m @ 322 ppm U3O8 from 89 m**
4	Kalkaroo	RMC	120	472244	6490356	116	-90	0	94	94.5	0.5	412					**H412: 0.5 m @ 411.5 ppm U3O8 from 94 m**
4	Kalkaroo	RM	130	476884	6491086	114	-90	0	117.75	119.25	1.5	456					**H460: 1.5 m @ 455.67 ppm U3O8 from 117.75 m**
4	Kalkaroo	RAB	133.99	473162	6490500	117	-90	0	105.5	106.5	1	1437					**MTC056: 1 m @ 1437.25 ppm U3O8 from 105.5 m**
4	Kalkaroo	RAB	127.5	473160	6490598	116	-90	0	101.5	102.25	0.75	323					**MTC061: 0.75 m @ 323 ppm U3O8 from 101.5 m**
4	Kalkaroo	RM	121.62	472843	6489581	118	-90	0	118	118.3	0.3	1100					**ZV-1100: 0.3 m @ 1100 ppm U3O8 from 118 m**
5	Lawlor Dam	RM	130.14	481539	6491922	110	-90	0	125.17	126.92	1.75	944					**580_108: 1.75 m @ 944.14 ppm U3O8 from 125.17 m**
5	Lawlor Dam	RM	121.31	481427	6491120	112	-90	0	111.75	112.75	1	537					**580_109: 1 m @ 536.75 ppm U3O8 from 111.75 m**
5	Lawlor Dam	RM	121.31	481427	6491120	112	-90	0	111.9	112.4	0.5	864	742	1.13	371	1112	**580_109: 0.5 m @ 863.5 ppm U3O8 from 111.9 m**
5	Lawlor Dam	RM	103.33	481335	6490314	113	-90	0	94.25	95.75	1.5	408					**580_110: 1.5 m @ 408.17 ppm U3O8 from 94.25 m**
5	Lawlor Dam	RM	136.86	482127	6490180	113	-90	0	128.5	130	1.5	521					**580_114: 1.5 m @ 521.17 ppm U3O8 from 128.5 m**

Target Area ID	Target Area	Drill Type	Hole Depth	Easting GDA94	Northing GDA94	MGA RL	Dip (°)	Azimuth (°)	From (m)	To (m)	Length (m)	Interval Grade (U_3O_8 ppm)	Average Grade (U_3O_8 ppm)	Average Thickness (m)	Min Grade (U_3O_8 ppm)	Max Grade (U_3O_8 ppm)	Description
5	Lawlor Dam	RM	135.94	482467	6492585	109	-90	0	122.25	124	1.75	661					**580_117: 1.75 m @ 660.71 ppm U3O8 from 122.25 m**
5	Lawlor Dam	RM	133.5	483057	6490791	112	-90	0	128.5	129.25	0.75	523					**580_127: 0.75 m @ 522.67 ppm U3O8 from 128.5 m**
5	Lawlor Dam	RM	133.5	483195	6491734	110	-90	0	121.16	121.91	0.75	407					**580_128: 0.75 m @ 407 ppm U3O8 from 121.16 m**
5	Lawlor Dam	RM	133.5	483195	6491734	110	-90	0	128.16	128.91	0.75	371					**580_128: 0.75 m @ 370.67 ppm U3O8 from 128.16 m**
5	Lawlor Dam	RM	138	481919	6492886	108	-90	0	127.25	128.5	1.25	554					**H468: 1.25 m @ 553.6 ppm U3O8 from 127.25 m**
5	Lawlor Dam	RM	132.4	482294	6491326	112	-90	0	126.75	127.25	0.5	435					**H470: 0.5 m @ 434.5 ppm U3O8 from 126.75 m**
5	Lawlor Dam	RM	139	482302	6489968	113	-90	0	117.75	119.25	1.5	418					**H471: 1.5 m @ 417.5 ppm U3O8 from 117.75 m**
5	Lawlor Dam	RAB	139.5	482065	6490193	113	-90	0	126.75	127.75	1	846					**MTC077: 1 m @ 846 ppm U3O8 from 126.75 m**
5	Lawlor Dam	RAB	133	482281	6490513	113	-90	0	125.5	127	1.5	379					**MTC079: 1.5 m @ 379.33 ppm U3O8 from 125.5 m**
5	Lawlor Dam	RM	140	481300	6492800	110	-90	0	124	124.5	0.5	1112					**YAM017: 0.5 m @ 1111.5 ppm U3O8 from 124 m**
5	Lawlor Dam	RM	134	481400	6491600	111	-90	0	123.36	124.61	1.25	437					**YAM025: 1.25 m @ 436.8 ppm U3O8 from 123.36 m**
6	Kalkaroo South	RM	131.39	484034	6480627	126	-90	0	105.96	106.96	1	403	325	0.90	250	400	**580_084: 1 m @ 403.25 ppm U3O8 from 105.96 m**

APPENDIX 2 – JORC TABLE 1, SECTIONS 1 – 2

JORC Table 1: Section 1 Sampling Techniques and Data

Criteria of JORC Code 2012	Reference to the Current Report Comments / Findings
Sampling techniques	Much of the drilling data used in the estimation process are historical results from various exploration companies that have worked over the Honeymoon Uranium Project area since 1972. Due to the historic nature of these data, it is not always possible to comment on the accuracy or quality of the uranium grades derived from the downhole gamma logging. Uranium grade data derived from various generations were sourced from numerous historical reports between 1969 and the early 2000s, with all reports written by qualified geologists employed by, or consulting to, the company in question. A number of internal reviews of these historical data have been conducted since the early 2000s, a few of which have been reviewed by Boss' Competent Person. Although the Company cannot verify the authenticity of the original historical documents prior to the 2000s, the Competent Person is satisfied that the information contained therein is of sufficient enough quality to provide a reasonable, indicative basis to indicate that mineralisation is present, and likely to occur in the ranges of tonnages and grades reflected in the Company's updated Exploration Target. The sampling method for drilling conducted at the Honeymoon Uranium Project has always been by downhole geophysical logging. All drilling completed prior to 2003 was logged predominantly by downhole gamma tools. In 2003, due to the highly variable radioactive disequilibrium within the Honeymoon Deposit, three PFN (Prompt Fission Neutron) logging tools were purchased by Southern Cross Resources. The PFN tool measures the uranium-235 radioactive isotope, allowing a more direct measurement of the uranium within the host formation, thereby reducing the effect of the disequilibrium. A series of calibration test pits were constructed at the Honeymoon Uranium Mine to enable regular calibration of the PFN tools. All drilling undertaken after 2003 was sampled by a combination of downhole gamma and PFN logging. The gamma sondes were calibrated regularly at the certified Adelaide Test Facility on Conyngham Street, Glenside, Adelaide (formerly known as the AMDEL calibration pits). Calibration of the PFN tool was regularly undertaken using in-house calibration pits available at the Honeymoon. Gamma data was collected at variable sample rates between 5 and 10cm. PFN logging data was collected at sample rates between 1 and 3cm. Uranium grades (pU_3O_8) were calculated from the Boss-owned PFN tools after calibration and compositing to 25cm sample intervals. Equivalent gamma grades (eU_3O_8) were determined from the gamma data collected using the post-calibration natural gamma-logs, moisture correction, and hole-size correction factors. Gamma logging data were also composited to 25cm sample intervals. It is currently unknown whether any work has been undertaken historically on the disequilibrium factor (or factors) in other parts of the Honeymoon Uranium Project, as all of this work has previously focused on the deposits within the Honeymoon Re-Start Area (ML 6109). It is anticipated that work on disequilibrium factors will be undertaken as more drilling is completed regionally over the life of the project.

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Drilling techniques	All available drilling data was reviewed as part of the estimation process. From this dataset, a subset of 43 drillholes was extracted upon which the Exploration Target has been based, comprising • 27 holes drilled in the 1970s, using a combination of the Rotary Mud (RM) and Rotary Air Blast (RAB) techniques; • 16 holes drilled between 2001 and 2018 and comprising mostly rotary mud drilling.
Drill sample recovery	Physical samples collected intermittently between 1972 and 2017, predominantly from limited core drillholes. Historical core recoveries have been variable. Limited core samples were selected from the 2017 sonic core program, collected using hard plastic Lexan liners inside the rods (similar to the triple tubes used during diamond core drilling) to maximise core recovery. Sample recovery yields were generally greater than 95%. Results from the density work have been used in this estimation process.
Logging	Due to the historic nature of the sampling results included in this report, it is not possible to comment on the accuracy or quality of any geological logging used to produce the results described therein. However, based on more recent drilling programs and verification of the lithologies through drilling completed by Boss in 2018, the Competent Person has reviewed the available historical logging data and is satisfied that the information provides a reasonable, indicative basis for the current Exploration Target ranges of tonnages and grades. The predominant sample type from all of the drilling completed since the early 2000s has been drill chips. The samples were extracted via shovels at the drill collar, laid out in 2m on the drill pad. Sieved chip samples were stored in corresponding in industry-standard percussion sample chip trays. Both the sample piles and chip trays were photographed. All mineralised intervals were geologically logged using typical industry standards. These include but are not limited to: colour, grain size, texture, sorting, alteration and oxidation state.
Sub-sampling techniques and sample preparation	Due to the historic nature of the sampling results included in this report, it is not possible to comment on the accuracy or quality of any sampling techniques used to produce the results described therein. However, based on data reviewed and included as part of the February 2019 Mineral Resource estimate, the Competent Person has reviewed the available sampling records and is satisfied that the information provides a reasonable, indicative basis for the current Exploration Target ranges of tonnages and grades. Quality assurance and control (QAQC) of the geophysical data collected since the 2000s has included systematic control of the depth logged and control of the recorded U_3O_8 grade values. Geophysical tools estimate uranium content at large volumes, approximately 25 to 40cm radius. The volume is sufficiently large allowing accurate measure of the grade.
Quality of assay data and laboratory tests	Due to the historic nature of the logging data and uranium grades included in this report, it is not possible to comment on the accuracy or quality of any calibration systems or methods used to produce the historical results from drilling completed prior to 2003. Since 2003, the Company-owned PFN tools have been calibrated regularly using the on-site Honeymoon calibration test pits by specialist technicians. QAQC of the geophysical data included systematic control of the depth logged and control of the recorded eU3O8 grade values. QAQC of the PFN data also involved the regular use of all 3 Boss-owned PFN tools on selected drillholes as a check of both logged depth and resulting pU3O8 uranium grades. Depth calibrations of the winch were also regularly checked.

	Boss-owned Geophysical tools used to collect data included: • Geovista Gamma (with Guard) S422 • Prompt Fission Neutron tool PFN#27 • Prompt Fission Neutron tool PFN#32 • Prompt Fission Neutron tool PFN#8 • Gamma combined with guard S058 • Geovista 3 arm calliper A326
Verification of sampling and assaying	Due to the historic nature of the sampling and uranium grade data included in this report, it is not possible to comment on the accuracy or quality of the historical assays from drilling completed prior to 2003. However, based on successive drilling completed since 2003 (after acquisition of the PFN tools), resulting PFN grades have been shown to correlate well with indicative gamma assays reported by historical drilling within the main deposits of the Honeymoon Re-Start Area. The Competent Person has reviewed and verified these data and is satisfied that the assays are of sufficient quality to provide a reasonable, though indicative, basis for the estimation of the current Exploration Target.
Location of data points	Due to the historic nature of the drilling data included in this report, it is not possible to comment on the accuracy of the initial positioning and subsequent surveying used to locate the historical drilling completed prior to 2003. However, based on several field visits, recent drilling programs and excellent orthophoto satellite imagery over the area covered by Mining Licence 6109, the Competent Person is satisfied that the location data from drilling undertaken in the same historical generations is also of sufficient accuracy to provide a reasonable and indicative basis for the estimation of the current Exploration Target. Topographic control was improved by Aerometrex Pty. Ltd flying 10cm pixel aerial photography which was rectified using registered survey points installed at site before plant construction began in 2011. Following the survey, all historical drill collar RL values were corrected using the updated topographic surface. The corrected collar RLs are used in the current estimation process. Following the 2018 exploration drill program, a Trimble differential GPS (DGPS) unit was hired to survey in the drill collars to a greater accuracy than that provided by the handheld GPS units. The Trimble system comprised an R2 GNSS receiver, Bluetooth connection to a Trimble TSC3 controller using the Trimble RTX correction service, with 3cm horizontal accuracy and greater than 10cm vertical accuracy. The resulting data from the DGPS survey was found to match the coordinates surveyed by the handheld GPS unit.
Data spacing and distribution	Drill spacings have been variable throughout the different generations of exploration over the Project. Due to the historic nature of the drilling, it is not possible to comment on the accuracy of the drill spacing and distribution used to produce the results reported therein. The Competent Person has reviewed all available data and, based on their knowledge and experience with the various exploration techniques employed, is satisfied that the data included here is of sufficient quality and accuracy to provide a reasonable, if indicative, basis for the ranges of tonnages and grades reflected in the Company's Exploration Target.
Orientation of data in relation to geological structure	All holes are drilled vertically which provides a suitable intersection of the flat laying mineralised bodies.

Sample security	Due to the historic nature of the downhole geophysical data reported therein, it is not always possible to comment on the sample security methods employed for the data used to produce the results described in this report. As these data are from areas that are in a purely exploratory stage of operation, the Competent Person has considered that any issues potentially relating to sample security do not present a material risk at this current stage of evaluation.
Audits or reviews	All information used in the 2019 Exploration Target update has been reviewed by the Boss Resources Competent Person. Due to the historic nature of the results reported therein, no further reviews or audits have been undertaken.

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, 3 Retention Leases and 2 Miscellaneous Purpose Licenses. The Mining license expires in 2023, exploration licenses expire in 2020 with the exception of EL 6020 and EL 6081 (expiry in 2019). All tenements are in good standing and are wholly owned by Boss Resources Ltd. A Native Title Agreement is currently in place with the Adnyamathanha, Ngadjuri and Wilyakali Traditional Owners. The Eastern Area of the Agreement provides 100% coverage over all tenements in the project area.
Exploration done by other parties	The Honeymoon deposit and surrounding areas of the Yarramba palaeochannel have been intensely explored and systematically drilled by different companies since 1969. The Honeymoon Project has been evaluated several times to varying degrees of intensity, from scoping studies to the current Definitive Feasibility Study that was initiated in 2018. Mineral Resource and Exploration Target estimates have been conducted at various times between 1998 to 2019 (Last Exploration Target estimate was announced to the ASX on 8 December 2015).
Geology	The mineralisation at Honeymoon is classified as palaeovalley-type, sandstone-hosted uranium in the form of tabular lenses which are associated with the vertical and lateral movement of oxidised, uraniferous groundwaters in palaeochannels that have likely been influenced by multiple regional-scale structures in the underlying basement formations. Mineralisation is hosted within the unconsolidated sediments of the Tertiary-aged (Palaeogene) Eyre Formation on what appear to be the shoulders, or shallow embankments, of narrower channel features within the palaeovalley. Channel fill consists of multiple upward-fining sequences of sand, silt and clay. Regional geophysical data show the coincidence between mineralisation of good grade and tenor from drilling and depressions in the basement topographic surface that are strongly suggestive of palaeochannel limbs. The mineralisation estimated in the Exploration Target is also associated with these same depression features, as interpreted from both airborne electromagnetic and magnetic data. In areas containing some drilling, data suggests that the mineralisation is also hosted within the same Eyre Formation sediments however, it is impossible to conclude that this is also the case for target areas that have not been previously drill tested.

Drill hole Information	The topography in the region of the Honeymoon Project is predominantly flat. All holes were drilled vertically with an average hole depth of approximately 120m. Drillhole collar locations have been shown on Figures 6, 8 and 10 in the body of this report. No other drilling has been conducted recently in or around the Target Areas of the Exploration Target.
Data aggregation methods	Downhole assay from exploration drilling around the Project area consist predominantly of gamma which has a much lower detection limit than the PFN logging tools. Although intersections of grade less than 200 ppm can still be indicators of much higher grade close by in the same channel system, the decision was made to keep the lower cut-off grade consistent with current Mineral Resource estimation criteria. A lower cut-off value of 250 ppm U_3O_8 was thus used, with a minimum interval thickness at 0.50m and a maximum internal dilution of 1m.
Relationship between mineralisation widths and intercept lengths	The predominant strike of the palaeovalleys in the Honeymoon Uranium Project is a mixture of north-south and east-west orientations. Known mineralisation from the Honeymoon Re-Start Area is approximately east-west and flat-lying in geometry. All drill traverses have thus been oriented according to the interpreted strike and width of the orebody, and are of vertical inclination to maximise interception of the mineralisation. All historical drilling are of vertical inclination. Due to the historical nature of the sampling results reported therein, it is not always possible to determine the widths from which the historical intercepts were derived. However, the Competent Person has reviewed the interpreted relationship between mineralisation widths and intercept lengths, and is satisfied that the historical data is of sufficient quality to provide a reasonable, and indicative, basis upon which the ranges of tonnages and grades reflected in the Company's Exploration Target.
Diagrams	All of the appropriate and relevant diagrams have been included in the announcement.
Balanced reporting	**Appendix 1** lists the drillhole collar locations and mineralised intercepts from historical drilling upon which part of the 2019 Exploration Target estimate has been based.
Other substantive exploration data	Minor gravity surveys have been completed over parts of the resource area however these surveys have not been instrumental in the 2019 upgrade of the Mineral Resource and are deemed irrelevant for the purpose of this report.
Further work	Future work Involves cheaper alternatives to regional exploration, such as ground-based passive seismic and gravity surveys. In March 2019, a ground-based passive seismic orientation survey was initiated over the East Kalkaroo Deposit (within ML 6109) in order to develop a deposit-specific depth-to-basement model that will then be applied regionally in areas of little to no existing drill support. Airborne geophysical surveys are proposed for the Western Region tenements.