Alligator Energy

# ASX Announcement

23 November 2022

# Resource Drilling complete with Highest grades found so far at Samphire Uranium Project

Alligator Energy Limited **ASX: AGE** (**Alligator** or the **Company**) is pleased to advise that additional resource drilling flagged in our 13 October 2022 ASX release has been completed at the Blackbush Deposit (**Blackbush**), Samphire Uranium Project south of Whyalla, South Australia.

## Highlights

- Drilling in the western channel extension of Blackbush West has found **some of the highest uranium grades recorded to date at Samphire**, with multiple interpreted roll fronts extending some 200 metres from the existing Indicated resource boundary. Key intersections of grade[1] and grade thicknesses[2] include:
    - **1.04 metres at 2.02% (20,200ppm) $pU_3O_8$ from 70.4 metres (GT 21,010)**
        - *Including 0.5 metres @ 3.54% $pU_3O_8$ from 70.6 metres (GT 17,700)*
    - **2.12 metres at 0.64% (6,400ppm) $pU_3O_8$ from 60.0 metres (GT 13,570)**
    - **1.94 metres at 0.85% (8,500ppm) $pU_3O_8$ from 59.8 metres (GT 16,490)**
    - **1.72 metres at 0.89% (8,900ppm) $pU_3O_8$ from 59.2 metres (GT 16,490)**
    - **1.42 metres at 0.71% (7,145ppm) $pU_3O_8$ from 66.4 metres (GT 10,150)**
- Rotary mud drilling targeting additional conversion of Inferred Mineral Resource to Indicated category within the Blackbush Minerals Resource Estimate has been completed for this year.
- Alligator has been maintaining and updating its internal database and models with Prompt Fission Neutron (PFN) $pU_3O_8$ results while drilling was occurring, and these are now with AMC Consultants, who have been re-engaged to undertake a further update of the Blackbush mineral resource estimate before end of Q4 2022.
- A targeted increase in Indicated category will allow the Scoping Study (targeted for completion late Q4) to utilise a higher category of resource for the majority of the proposed ISR mining schedule.
- Drilling was predominantly targeted around the existing Blackbush West Indicated resource area and has increased and enhanced the mineralisation continuity already seen. Thirty-five (35) holes have been completed testing the target sequence.
- Due to around 10 drilling days being lost with rain, and a need to drill and install future required groundwater monitoring wells for the rest of this year, further resource and extensional drilling will continue in early 2023. The drilling and logging service providers are already locked in to commence early February 2023.

[1] *Note: pU3O8 denotes that the grade has been determined by PFN downhole logging*
[2] *GT= grade(ppm) x thickness(m) – divide by 10,000 for m% GT*

- Alligator has received draft results from the ANSTO uranium leach and recovery test work and is reviewing and clarifying outstanding questions prior to report finalisation and release later this quarter. These results have been very consistent with our expectations.

**Alligator's CEO Greg Hall stated:** *"The mineralisation continuity and exceptional grades found around Blackbush West have been exciting to see and have continued to buoy our positive view of this Project. The high-grade zones encountered appear to be extending the resource to the west in an area with little historical drilling. With resource update now underway, along with commencement of populating the Scoping Study models, we are looking forward to releasing results on these, along with the ANSTO testwork when finalised."*

## Blackbush Additional Resource Drilling

Commensurate with the release of the Blackbush Deposit initial combined Indicated and Inferred Mineral Resource Estimate (**MRE**) targeting In-Situ Recovery (ISR)[3], AGE was already planning a follow-up drilling program at Blackbush, which commenced on 6 October 2022 and concluded on 21 November 2022.

Thirty-five (35) rotary mud drillholes were completed testing the target Kanaka sands within the Inferred MRE boundary. Eight (8) additional holes were abandoned due to lost circulation in the overlying Melton limestone/sand during drilling. Unfortunately, rain delays caused around 10 days drilling to be lost during the program.

Drillholes were successfully logged with Prompt Fission Neutron (PFN) and natural gamma for uranium grade, and 3-arm caliper, resistivity, neutron porosity, density for downhole lithology.

The aim of the drilling program was to target additional conversion of the MRE from Inferred to Indicated category. The resource data acquired is now with AMC Consultants, who will undertake a further update of the Blackbush MRE before end of Q4 2022. Hole locations and key high-grade uranium grade intercepts within the Kanaka sands are shown in Figure 1.

The latter part of the drilling program focussed on the western channel extension of Blackbush West which found multiple high-grade continuous roll fronts extending some 200m from the existing Indicated resource boundary (Figure 1). Some holes were successfully targeted to hit the nose of these roll-fronts, which has increased the mineralisation continuity already seen within this area, in addition to increasing its predictability.

Ongoing calibration of the historical regional ground gravity data is occurring commensurate with acquisition of all new drilling data to refine the positions within the Samphire palaeochannel that hosts the mineralisation. The western area of Blackbush West now shows the presence of channel-like feature extending over 500m to the west of the high-grade roll-fronts identified in the recent program (Figure 2).

Only 7 historical holes exist in this area with only a few drilled within the channel feature itself. This area is a high-priority target for follow-up drilling in February next year in addition to other roll front trends not adequately tested by historical drilling north of Blackbush West where historical drill spacing remains at 100m by 100m centres or is non-existent (Figure 2).

[3] *ASX:AGE release "Initial Mineral Resource at Blackbush Deposit Targeting In-Situ Recovery", 1 September 2022 (Microsoft Word - 2022-08-31 Resource-ASX announcement FINAL)*

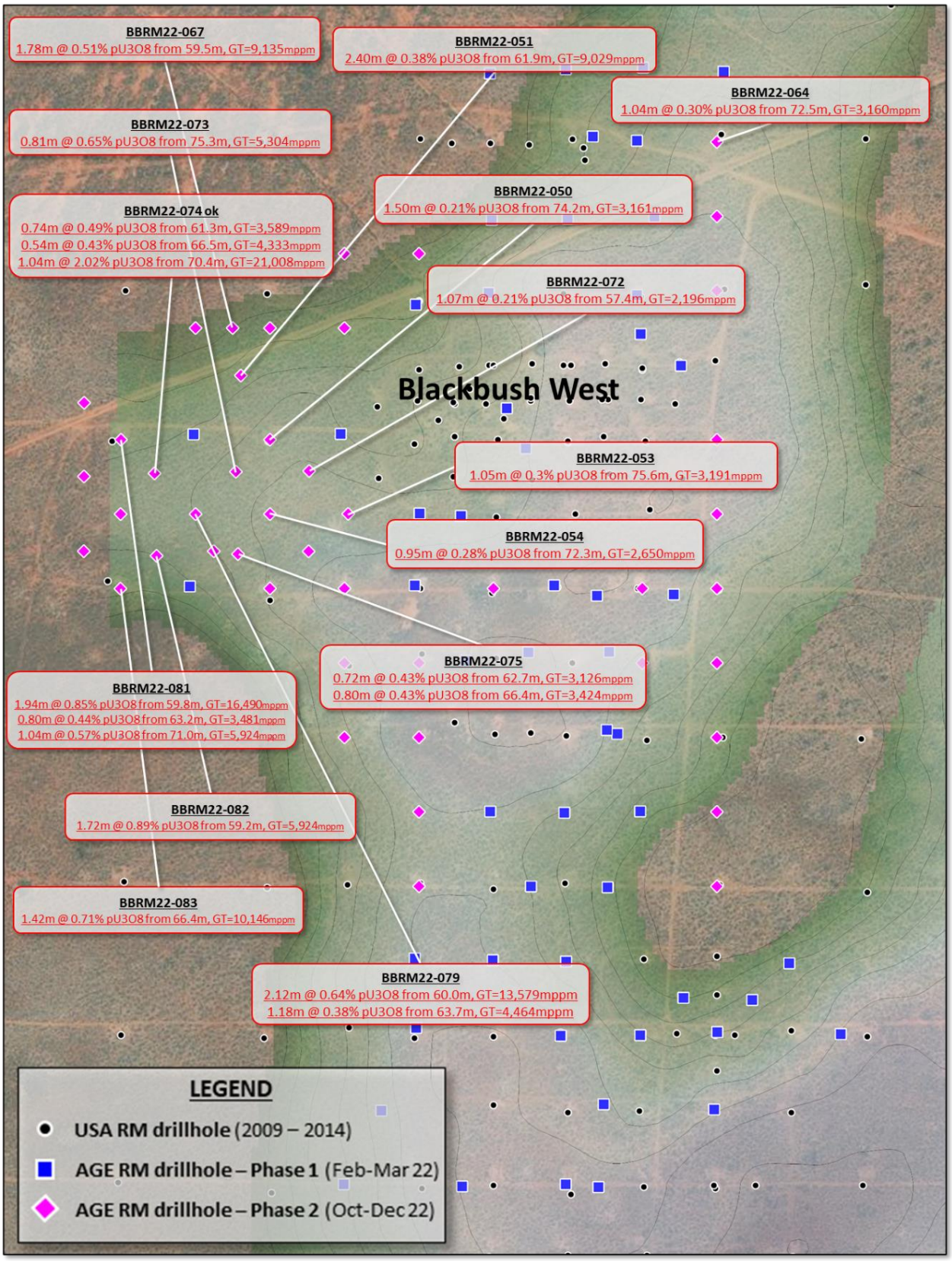


**Figure 1:** Significant uranium grade intersections ($pU_3O_8$) hosted within the Kanaka sands.

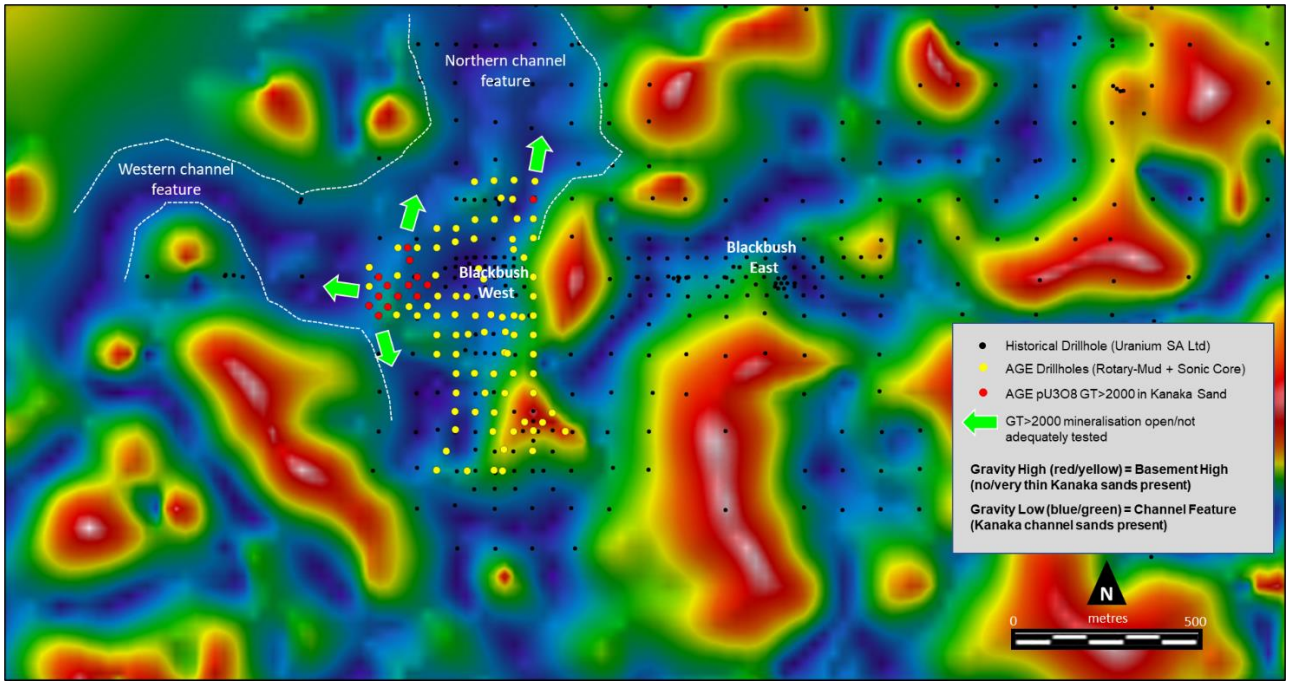


**Figure 2:** Historical (black dots) and AGE drillholes (yellow and red dots). Red dots denote significant uranium mineralisation intersections hosted within the Kanaka sands above 2000 GT (m ppm) obtained in this drilling program. Open positions where mineralisation is not adequately tested are shown as green arrows. These areas are earmarked for priority drill testing in early 2023.

## APPENDIX 1

**In accordance with ASX Listing Rule 5.7.2 the Company provides the following information**

**Table 1**: All significant uranium intersections from PFN logging ($pU_3O_8$) of the rotary mud drilling program above 0.5m minimum thickness, >0.025% $pU_3O_8$ (250ppm pU3O8) with internal dilution 0.25m

*Summarised above 0.5m minimum thickness, > 0.025% $pU_3O_8$ (250ppm $pU_3O_8$) with internal dilution 0.25m.*

| Holeid | Easting (GDA94, Z53) | Northing (GDA94, Z53) | RL | Azimuth | Dip | Hole Depth (m) | Depth From (m) | Depth To (m) | Thickness (m) | pU3O8 (%) | pU3O8 (ppm) | Grade x Thickness (mppm) | Grade x Thickness m% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BBRM22-040 | 722900 | 6324200 | 21.3 | 000 | -90 | 88 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-041 | 722900 | 6324400 | 21.2 | 000 | -90 | 90 | 70.4 | 71.0 | 0.57 | 0.12 | 1239 | 706 | 0.1 |
| BBRM22-042 | 722900 | 6324100 | 20.9 | 000 | -90 | 78 | 61.9 | 62.5 | 0.6 | 0.07 | 748 | 449 | 0.0 |
| BBRM22-042 | 722900 | 6324100 | 20 | 000 | -90 | 78 | 63.3 | 63.9 | 0.6 | 0.04 | 350 | 210 | 0.0 |
| BBRM22-043 | 722900 | 6324250 | 21.3 | 000 | -90 | 84 | 64.9 | 65.6 | 0.65 | 0.05 | 520 | 338 | 0.0 |
| BBRM22-043 | 722900 | 6324250 | 21.3 | 000 | -90 | 84 | 68.2 | 68.7 | 0.5 | 0.03 | 278 | 139 | 0.0 |
| BBRM22-043 | 722900 | 6324250 | 21.3 | 000 | -90 | 84 | 72.4 | 73.3 | 0.85 | 0.09 | 910 | 774 | 0.1 |
| BBRM22-044 | 722900 | 6324150 | 21.1 | 000 | -90 | 81 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-045 | 722900 | 6324050 | 20.8 | 000 | -90 | 74 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-046 | 722900 | 6324000 | 20.7 | 000 | -90 | 73 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-047 | 722850 | 6324150 | 21.4 | 000 | -90 | 90 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-048 | 722850 | 6324200 | 21.5 | 000 | -90 | 90 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-049 | 722900 | 6324300 | 21.3 | 000 | -90 | 87 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-050 | 722600 | 6324300 | 23.4 | 000 | -90 | 90 | 74.2 | 75.7 | 1.5 | 0.21 | 2107 | 3161 | 0.3 |
| BBRM22-051 | 722580 | 6324343 | 23.7 | 000 | -90 | 84 | 61.9 | 64.3 | 2.4 | 0.38 | 3762 | 9029 | 0.9 |
| BBRM22-052 | 722652 | 6324250 | 22.9 | 000 | -90 | 52 | No results - abandoned at 52m due to lost circulation in Melton Sands | | | | | 0 | 0.0 |
| BBRM22-053 | 722600 | 6324250 | 23.5 | 000 | -90 | 90 | 75.6 | 76.7 | 1.05 | 0.30 | 3039 | 3191 | 0.3 |
| BBRM22-054 | 722550 | 6324250 | 24.0 | 000 | -90 | 96 | 72.3 | 73.3 | 0.95 | 0.28 | 2789 | 2650 | 0.3 |
| BBRM22-055 | 722750 | 6324200 | 22.0 | 000 | -90 | 90 | 76.6 | 77.2 | 0.56 | 0.07 | 668 | 374 | 0.0 |
| BBRM22-056 | 722650 | 6324200 | 22.9 | 000 | -90 | 96 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-057 | 722600 | 6324200 | 23.4 | 000 | -90 | 56 | No results - abandoned at 56m due to lost circulation in Melton Sands | | | | | 0 | 0.0 |
| BBRM22-058 | 722650 | 6324150 | 22.8 | 000 | -90 | 96 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-059 | 722650 | 6324100 | 22.7 | 000 | -90 | 90 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-060 | 722700 | 6324100 | 22.3 | 000 | -90 | 84 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-061 | 722700 | 6324050 | 22.1 | 000 | -90 | 90 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-062 | 722700 | 6324000 | 22.0 | 000 | -90 | 84 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-063 | 722700 | 6324150 | 22.4 | 000 | -90 | 90 | 69.8 | 70.4 | 0.64 | 0.10 | 995 | 637 | 0.1 |
| BBRM22-064 | 722900 | 6324500 | 21.3 | 000 | -90 | 90 | 72.5 | 73.6 | 1.04 | 0.30 | 3038 | 3160 | 0.3 |
| BBRM22-065 | 722900 | 6324450 | 21.2 | 000 | -90 | 54 | No results - abandoned at 54m no penetration - silicified limestone | | | | | 0 | 0.0 |
| BBRM22-066 | 722600 | 6324375 | 23.5 | 000 | -90 | 84 | 61.7 | 62.2 | 0.54 | 0.05 | 462 | 249 | 0.0 |
| BBRM22-067 | 722575 | 6324375 | 23.9 | 000 | -90 | 90 | 59.5 | 61.3 | 1.78 | 0.51 | 5132 | 9135 | 0.9 |
| BBRM22-067 | 722575 | 6324375 | 23.9 | 000 | -90 | 90 | 61.4 | 62.4 | 1.01 | 0.12 | 1198 | 1210 | 0.1 |
| BBRM22-068 | 722550 | 6324375 | 24.1 | 000 | -90 | 66 | No results due to hole drilled outside the palaeochannel | | | | | 0 | 0.0 |
| BBRM22-069 | 722650 | 6324425 | 23.1 | 000 | -90 | 58 | | | | | | 0 | 0.0 |
| BBRM22-070 | 722700 | 6324425 | 22.6 | 000 | -90 | 78 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-071 | 722650 | 6324375 | 23.0 | 000 | -90 | 81 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-072 | 722626 | 6324279 | 23.1 | 000 | -90 | 90 | 57.4 | 58.5 | 1.07 | 0.21 | 2052 | 2196 | 0.2 |
| BBRM22-072 | 722626 | 6324279 | 23.1 | 000 | -90 | 90 | 76.2 | 76.8 | 0.61 | 0.04 | 370 | 226 | 0.0 |
| BBRM22-073 | 722577 | 6324278 | 23.7 | 000 | -90 | 90 | 75.3 | 76.1 | 0.81 | 0.65 | 6548 | 5304 | 0.5 |
| BBRM22-074 | 722522 | 6324277 | 24.3 | 000 | -90 | 90 | 61.3 | 62.0 | 0.74 | 0.49 | 4850 | 3589 | 0.4 |
| BBRM22-074 | 722522 | 6324277 | 24.3 | 000 | -90 | 90 | 62.9 | 63.4 | 0.54 | 0.43 | 4333 | 2340 | 0.2 |
| BBRM22-074 | 722522 | 6324277 | 24.3 | 000 | -90 | 90 | 67.7 | 68.3 | 0.6 | 0.10 | 996 | 598 | 0.1 |
| BBRM22-074 | 722522 | 6324277 | 24.3 | 000 | -90 | 90 | 70.4 | 71.4 | 1.04 | 2.02 | 20200 | 21008 | 2.1 |
| BBRM22-075 | 722524 | 6324222 | 24.3 | 000 | -90 | 90 | 62.7 | 63.4 | 0.72 | 0.43 | 4342 | 3126 | 0.3 |
| BBRM22-075 | 722524 | 6324222 | 24.3 | 000 | -90 | 90 | 66.4 | 67.2 | 0.8 | 0.43 | 4280 | 3424 | 0.3 |
| BBRM22-076 | 722578 | 6324223 | 23.7 | 000 | -90 | 54 | No results - abandoned at 54m due to lost circulation in Melton Sands | | | | | 0 | 0.0 |
| BBRM22-077 | 722626 | 6324225 | 23.1 | 000 | -90 | 53 | No results - abandoned at 53m due to lost circulation in Melton Sands | | | | | 0 | 0.0 |
| BBRM22-078 | 722475 | 6324275 | 24.7 | 000 | -90 | 78 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0.0 |
| BBRM22-079 | 722500 | 6324250 | 24.5 | 000 | -90 | 85 | 60.0 | 62.1 | 2.12 | 0.64 | 6405 | 13579 | 1.4 |
| BBRM22-079 | 722500 | 6324250 | 24.5 | 000 | -90 | 85 | 63.7 | 64.8 | 1.18 | 0.38 | 3783 | 4464 | 0.4 |
| BBRM22-079 | 722500 | 6324250 | 24.5 | 000 | -90 | 85 | 68.3 | 69.3 | 0.98 | 0.20 | 1985 | 1945 | 0.2 |
| BBRM22-079 | 722500 | 6324250 | 24.5 | 000 | -90 | 85 | 0 | 0 | 0 | 0.0 | 0 | 0 | 0.0 |
| BBRM22-080 | 722475 | 6324325 | 24.8 | 000 | -90 | 52 | No results due to hole drilled outside the palaeochannel | | | | | 0 | 0.0 |
| BBRM22-081 | 722500 | 6324300 | 24.6 | 000 | -90 | 90 | 59.8 | 61.8 | 1.94 | 0.85 | 8500 | 16490 | 1.6 |
| BBRM22-081 | 722500 | 6324300 | 24.6 | 000 | -90 | 90 | 63.2 | 64.0 | 0.8 | 0.44 | 4351 | 3481 | 0.3 |
| BBRM22-081 | 722500 | 6324300 | 24.6 | 000 | -90 | 90 | 71.0 | 72.1 | 1.04 | 0.57 | 5696 | 5924 | 0.6 |
| BBRM22-082 | 722475 | 6324225 | 24.7 | 000 | -90 | 82 | 59.2 | 61.0 | 1.72 | 0.89 | 8858 | 15236 | 1.5 |
| BBRM22-083 | 722500 | 6324200 | 24.4 | 000 | -90 | 86 | 63.8 | 64.8 | 1 | 0.07 | 705 | 705 | 0.1 |
| BBRM22-083 | 722500 | 6324200 | 24.4 | 000 | -90 | 86 | 66.4 | 67.8 | 1.42 | 0.71 | 7145 | 10146 | 1.0 |
| BBRM22-083 | 722500 | 6324200 | 24.4 | 000 | -90 | 86 | 76.5 | 77.5 | 1.06 | 0.10 | 1018 | 1079 | 0.1 |

pU3O8 grades have been aquired by a Prompt Fission Neutron Tool (PFN22) which was calibrated at the Australian Mineral Development Laboratories (AMDEL) calibration facility (Adelaide) and then checked for repeatability by regularly logging a fibreglass-cased calibration hole onsite (MRC002,723703E, 6324350N (GDA94), depth 84.5m). All $pU_3O_8$ grades were claculated and corrected for borehole size from caliper data taken every 5cm downhole and using the equation *{2.737*({EPITHERM}/{THERMAL}-0.02)}*{-1*Power{10,-06 )*Power({CAL},2)+0.0097*{CAL}-0.0313}*

# JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • Rotary mud drilling was used to obtain 2m samples in the non-target area and 1m mud /chip samples within the target area.<br>• Downhole wireline logging using a Prompt Fission Neutron (PFN) tool was used to calculate $pU_3O_8$ from the ratio of epithermal and thermal neutrons.<br>• The PFN used in this program was calibrated using industry standard procedures at the Australian Mineral Development Laboratories (AMDEL) calibration facility (Adelaide). |
| *Drilling techniques* | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • All holes were drilled by Watson Drilling with typical hole diameter being 6" (152.4mm).<br>• All holes were vertical. |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • Caliper data show that borehole size increases in zones of unconsolidated sands, hence all $pU_3O_8$ grades were calculated and corrected for borehole size from caliper data taken every 5cm downhole using the equation {2.737*({EPITHERM}/{THERMAL}-0.02)}*{-1*Power(10,-06 )*Power({CAL},2)+0.0097*{CAL}-0.0313} |
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc)* | • Chip/mud samples were collected 2m in non-target areas and then 1m in the zones of interest (i.e. the target Kanaka Beds).<br>• All samples are geologically logged compliant with industry standards which included lithology, mineralogy, grain size/rounding/sorting, colour, |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *photography.*<br>• *The total length and percentage of the relevant intersections logged.* | redox.<br>• All samples were photographed using a high-resolution camera. |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • The depth of investigation of the PFN tool approximately 25-40 cm radius around the borehole to allow for accurate measurement of the ratio of epithermal/thermal neutrons for pU3O8 calculations.<br>• QA/QC of $pU_3O_8$ data included repeatability checks by regularly logging a fibreglass-cased calibration hole onsite (MRC002,723703E, 6324350N (GDA94), depth 84.5m). MRC002 has sufficient assay data in the target zone to compare/calibrate PFN data.<br>• Repeat runs in rotary mud holes that remained open after drilling for sufficient time to allow for PFN logging was also performed. |
| *Quality of assay data and laboratory tests* | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | Three geophysical tools were used:<br>• Prompt Fission Neutron Tool (PFN) serial number 22 manufactured by Geoinstruments Inc, Nacogdoches, Texas. Neutron generator 78-80kV, logging at 0.5m/minute.<br>• Multisurvey tool (MST) serial number 24 manufactured by Geoinstruments Inc, Nacogdoches, Texas. Measures 16Normal, 64Long borehole resistance, Point Resistance, and Self Potential and uncalibrated natural gamma for depth matching.<br>• GeoVista 3-arm caliper, serial number 5589, measures the bore-hole size in millimetres for the length of the bore hole. |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • ~10% of rotary mud holes twinned historical which were used as a calibration check on the $pU_3O_8$ grades being acquired in this program.<br>• Natural gamma (on the caliper tool) was used for depth matching the PFN.<br>• No wireline stretch was observed during the program. |
| *Location of data points* | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource* | • Drillholes are sited using a Garmin handheld GPS<br>• Drilled holes are surveyed Leica iCON GPS 60 which uses the 4G |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | network to obtain corrections from SmartNet base stations (Continuously Operating Reference Stations (CORS)) located around Whyalla. The SmartNet corrections result in RTK RMS accuracy of 10-20mm in XY and 20-30mm in Z.<br>• Grid system GDA94 Projection 53H |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.*<br>• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*<br>• *Whether sample compositing has been applied.* | • Drill spacing varies from 50x100m, 200x200m, 50 x 25m and 200 x 200m centres as program was designed to validate historical drilling and infill where there is sparse historical information.<br>• pU3O8 intercepts calculated above 0.5m minimum thickness, >0.025% $pU_3O_8$ (250ppm pU3O8) with internal dilution 0.25m<br>• No compositing was applied. |
| *Orientation of data in relation to geological structure* | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | • The Samphire mineralisation is interpreted to be contained in horizontal to sub-horizontal sequence of sediments and underlying weathered granite. This interpretation is derived from the significant historic drilling and geological interpretation of the area.<br>• All drillholes are vertical which is appropriate for the orientation of the mineralisation |
| *Sample security* | • *The measures taken to ensure sample security.* | Rotary mud/chip samples are stored in AGE's secured storage facility in Whyalla. |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | No audits or reviews undertaken of sampling techniques to date. |

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral tenement and land tenure status* | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | • The JORC2012 compliant Blackbush deposit, referenced historical drilling and geophysics covering the Samphire project are located on Exploration Licence EL5926 originally granted 20th November 2016 for a term expiring 2018. The licence was subsequently renewed for a further 3 years expiring in November 2021. A further renewal has been lodged with DEM and is pending.<br>• EL5926 is 100% held by S Uranium Pty Ltd a wholly owned subsidiary of Alligator Energy Ltd. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • The land covering the licence area is Crown Lease; consisting of several leases over 2 pastoral stations. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | • Samphire Uranium Limited (SUL), previously UraniumSA (ASX: USA) historically conducted almost all previous exploration within EL5926 defining the Plumbush (JORC2004) and Blackbush (JORC2012) resources and all relevant drilling, geophysics except ground magnetics conducted by AGE in 2021.<br>• USA conducted preliminary Insitu Recovery (ISR) hydrogeological testwork on the Blackbush deposit with pump testing and hydrogeological modelling.<br>• Third party drilling is confined to one rotary mud hole for lignite exploration located in the southeast of the licence area. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | • Mineralisation is dominantly sediment hosted uranium within the Eocene Kanaka Beds. Minor amounts of mineralisation are present in the overlying Miocene Melton sands (informal name) and underlying Samphire granite (informal name) |
| *Drill hole Information* | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>  ○ *easting and northing of the drill hole collar*<br>  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  ○ *dip and azimuth of the hole*<br>  ○ *down hole length and interception depth*<br>  ○ *hole length.*<br>• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | • Drillhole information relating to prior 2022 rotary mud drilling Table 1 Appendix 1 ASX release “Exceptional High Grade Uranium Results – Samphire Project” March 29, 2022 and Table 1 Appendix 1 of this release.<br>• Drillhole information that relates to historic drilling was previously reported by Uranium SA (ASX: USA) in ASX release “Samphire Project Update” 27 September 2013. |
| *Data aggregation methods* | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly* | • pU3O8 intercepts for rotary mud holes are calculated above 0.5m minimum thickness, >0.025% $pU_3O_8$ (250ppm pU3O8) with internal dilution 0.25m |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *stated.* | |
| *Relationship between mineralisation widths and intercept lengths* | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • Mineralised widths are considered true widths or close to true widths due to the generally flat lying orientation of the mineralisation and use of perpendicular vertical drilling. |
| *Diagrams* | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | • Results are reported in appropriate diagrams and tables within this release. |
| *Balanced reporting* | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | • All mineralised intercepts using a cut-off >250ppm $U_3O_8$, minimum thickness of 0.5m with internal dilution of 0.25 metres measured by PFN have been reported.<br>• All relevant PFN grade data presented in Table 1. |
| *Other substantive exploration data* | • *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | • Geological observations have been reported in context of reported intersections. |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | Program for 2023 includes:<br>• Ground geophysical surveys and follow-up extension and exploration drilling to test for extensions to the Blackbush deposit. |

This announcement has been authorised for release by the Alligator Energy CEO.

## Contacts

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### Forward Looking Statement

This announcement contains projections and forward-looking information that involve various risks and uncertainties regarding future events. Such forward-looking information can include without limitation statements based on current expectations involving a number of risks and uncertainties and are not guarantees of future performance of the Company. These risks and uncertainties could cause actual results and the Company's plans and objectives to differ materially from those expressed in the forward-looking information. Actual results and future events could differ materially from anticipated in such information. These and all subsequent written and oral forward-looking information are based on estimates and opinions of management on the dates they are made and expressly qualified in their entirety by this notice. The Company assumes no obligation to update forward-looking information should circumstances or management's estimates or opinions change

### Competent Person's Statement

Information in this report is based on current and historic Exploration and Resource Drilling Results compiled by Dr Andrea Marsland-Smith who is a Member of the AusIMM. Dr Marsland-Smith is employed on a full-time basis with Alligator Energy as Chief Operating Officer, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration (including 20 years in ISR uranium mining operations and technical work) and to the activity she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Marsland-Smith consents to the inclusion in this release of the matters based on her information in the form and context in which it appears.

## About Alligator Energy

Alligator Energy Ltd is an Australian, ASX-listed, exploration company focused on uranium and energy related minerals, principally cobalt-nickel. Alligator's Directors have significant experience in the exploration, development and operations of both uranium and nickel projects (both laterites and sulphides).

### Projects