

Initial Geophysics completed and Drilling Recommences at Samphire Uranium Project

Alligator Energy Limited **ASX: AGE** (**Alligator** or the **Company**) is pleased to advise that drilling has recommenced on schedule at the Blackbush Deposit (**Blackbush**), Samphire Uranium Project south of Whyalla, South Australia, following completion of a high-resolution ground gravity survey and a trial 3D Ambient Noise Tomography (ANT) survey.

Highlights

- Drilling recommences at Blackbush targeting additional conversion of Inferred mineral resource to Indicated category.
- AMC Consultants re-engaged to undertake a further update of the Blackbush mineral resource estimate before end of Q4 2022.
- The targeting of a further resource update focussed on increasing the Indicated category will allow the planned Scoping Study to utilise a higher category of resource for the majority of the proposed ISR mining schedule.
- Drilling contractors secured to continue the drilling program in Q1 2023 in resource extension areas as well as outside of Blackbush where historical drilling flags potential for accumulations of uranium mineralisation not previously tested.
- Recent infill ground gravity work at Blackbush indicates a markedly improved resolution of the Samphire palaeochannel architecture.
- A trial Ambient Noise Tomography (ANT) survey over Blackbush West and East has been completed. Integration of the data with high-resolution ground gravity and drilling is underway to define the optimum methodology to map the Samphire palaeochannel system.
- As per the above, AGE is actively pursuing innovative geophysical techniques for incorporation into its near-term and long-term resource expansion and exploration strategy.
- ANSTO uranium leach and recovery test work is nearing completion and has taken an extended time to ensure the most accurate recovery curves using various input parameters.

The Scoping Study is targeted for completion towards the end of Q4.

Alligator's CEO Greg Hall stated: *"With our drilling re-commencing at Samphire, we have decided to undertake infill drilling first, and initiate a further resource update targeting an increased Indicated category at Blackbush. This is to ensure the planned Scoping Study ISR mining schedule will utilise a majority of Indicated resource, in line with ASX guidelines. Following our initial drilling work last year and earlier this year, and the conversion of Inferred to Indicated category from that drilling, our team is targeting those areas showing good mineralisation continuity to best achieve this. As Prompt Fission Neutron (PFN) is being used to determine grades, data is available within days for the existing resource model, which allows for targeted Scoping Study completion by end of this quarter."*

Rotary Mud Drilling

Commensurate with the release of the Blackbush Deposit initial combined Indicated and Inferred Mineral Resource estimate (**MRE**) targeting In-Situ Recovery (ISR)¹, AGE was already planning a follow-up drilling program at Blackbush. AGE is pleased to report this program commenced on time on 6 October 2022.

The program comprises up to 100 infill and extensional rotary mud drillholes (Figure 1) to complete the following objectives:

- target further conversion of the Blackbush Mineral Resource from Inferred to an Indicated JORC category,
- follow-up extensions of the known high-grade zones where mineralisation is not closed off, and
- test areas where historical data outside the MRE area flags potential for additional accumulations of uranium mineralisation.

A higher proportion of holes have been prioritised to the first two objectives such that the MRE can be updated to support ASX “life of mine” schedule requirements for the Blackbush Scoping Study, targeting end of Q4 2022 for completion. The resource update is expected to require only a short turnaround due to:

- recent familiarity within then AGE team and external resource consultant of Blackbush resource model,
- all drilling being rotary mud and drillers have operated at Samphire previously with approximately two holes per day currently being drilled, and
- increased technical experience in Alligator’s Samphire technical team.

As previous drilling enabled an accurate correlation between assay, PFN and gamma derived uranium grades, PFN grade measurement will be used as the principal uranium grade determination method for this program. This will allow new downhole grade data to be readily inserted into the resource model allowing for in-field adjustment of the drilling for best results.

AMC consultants (Perth) have been re-engaged to update the MRE once there is sufficient data to enable Inferred to Indicated conversion in the resource model. The remaining holes will test new areas for uranium accumulation proximal to Blackbush and may be deferred to Q1 2023 depending on proximity to end of November when rehabilitation is planned to commence. A drilling contractor has been secured for the full program this year and into early 2023.

¹ 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](#))

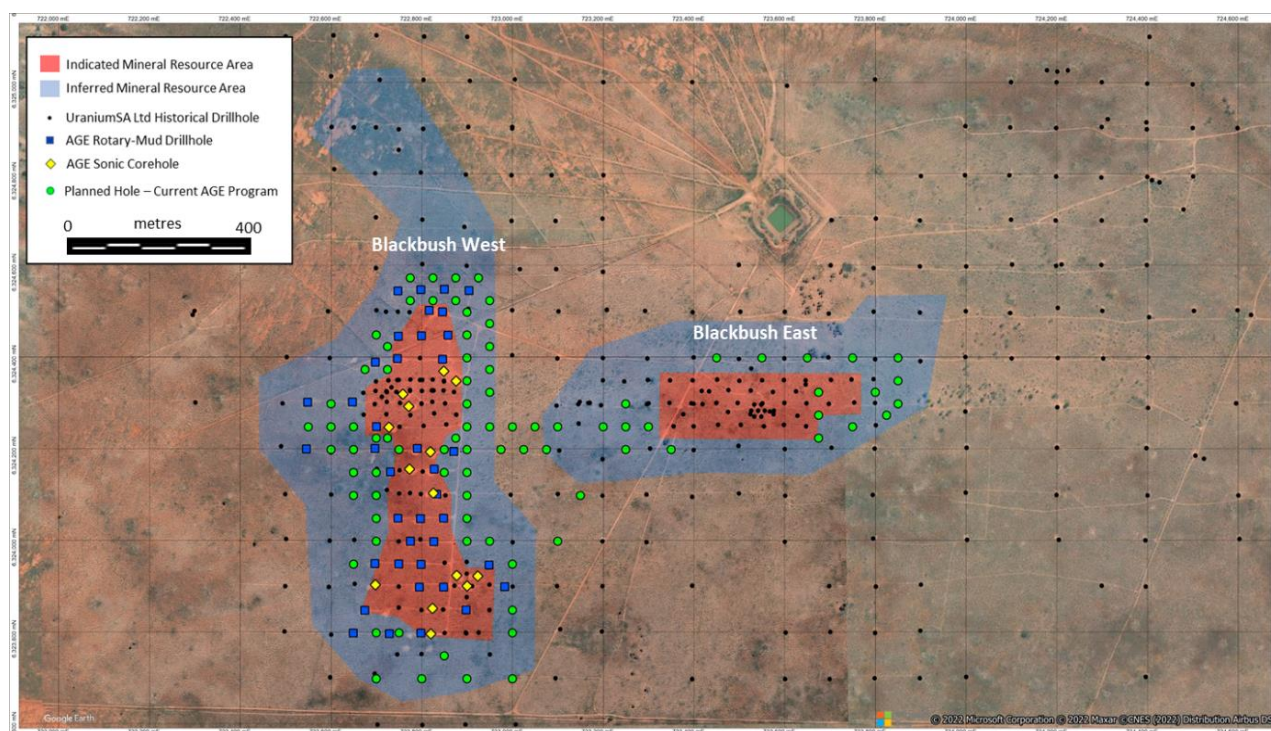


Figure 1 – Planned rotary mud hole locations (green dots) – final locations may vary depending on active field decisions.

Ground Gravity & Ambient Noise Tomography

Acquisition of high-resolution 50m-by-50m ground gravity data has been completed over Blackbush to upgrade the resolution of gravity data over the deposit. Whilst historical ground gravity broadly maps the palaeochannel system which hosts the uranium mineralisation (Figure 2A & B), the 100m-by-100m station spacing at which it was collected cannot map its internal architecture accurately. Preliminary processing undertaken by AGE to date show a marked improvement in the resolution of the palaeochannel architecture (Figure 2C). Further advanced processing on this data and reconciliation with drilling is currently in progress.

Alligator recently commissioned Fleet Space Technologies to undertake an Ambient Noise Tomography (ANT) trial at Blackbush (Figure 3) to test the technologies' ability to map the palaeochannel and its internal stratigraphy/geology in three-dimensions. The acquisition has been completed with data processing and interpretation currently underway. The ability to cost-effectively define the host palaeochannel and geology in 3D has potential to facilitate rapid and accurate drill targeting in areas within the palaeochannel more likely to host uranium mineralisation; ultimately boosting prospects of additional discoveries outside of the known mineralisation. Comparison between results from the recently acquired ground gravity data and ANT will be undertaken in the coming weeks to assess the optimal geophysical approach for AGE's 2023 inaugural exploration program outside of Blackbush.

Alligator will continue to monitor and apply innovative technology developments or applications that can accelerate development and improve the effectiveness or efficiency its exploration strategy.

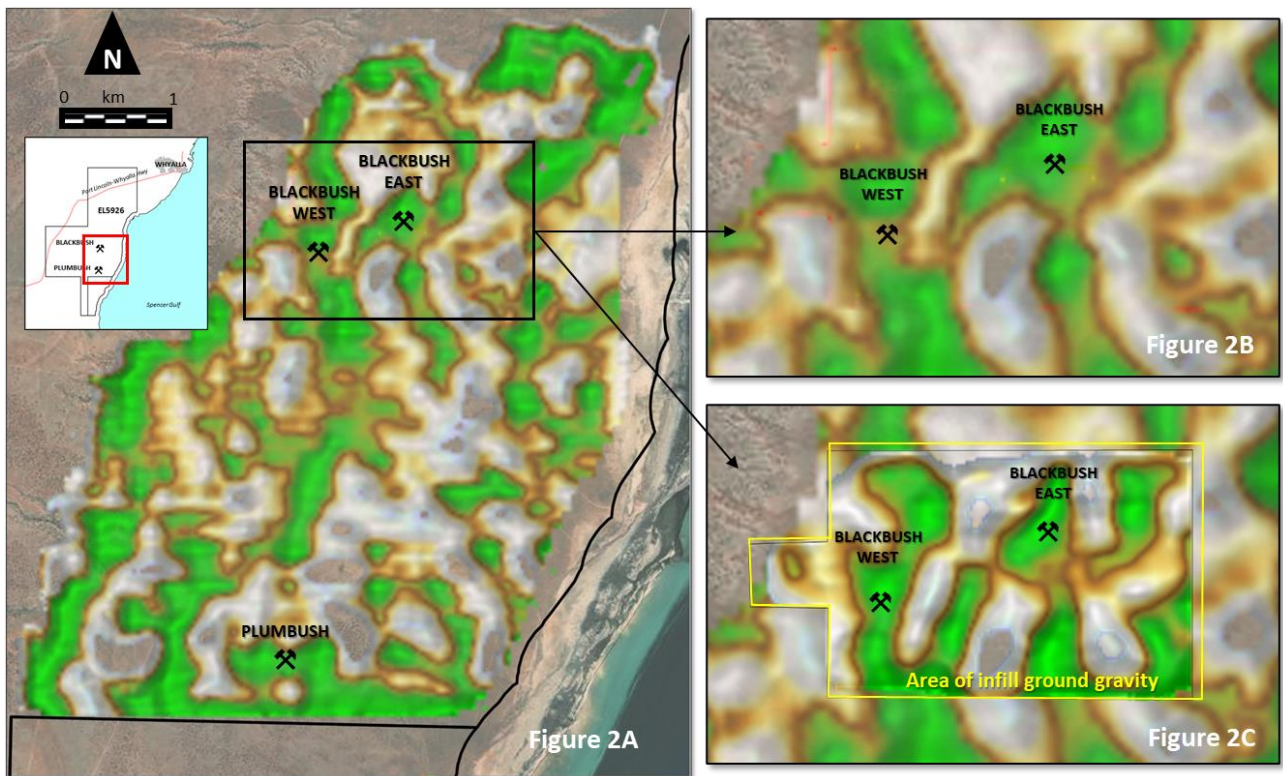


Figure 2 – Comparison of historical ground gravity vs recent infill ground gravity. Figure 2A & 2B shows the historical ground gravity defining the broad Samphire palaeochannel system on a regional scale (Figure 2A) and close up of the same data around Blackbush (Figure 2B). Figure 2C shows the improved resolution of data acquired by infill ground gravity.

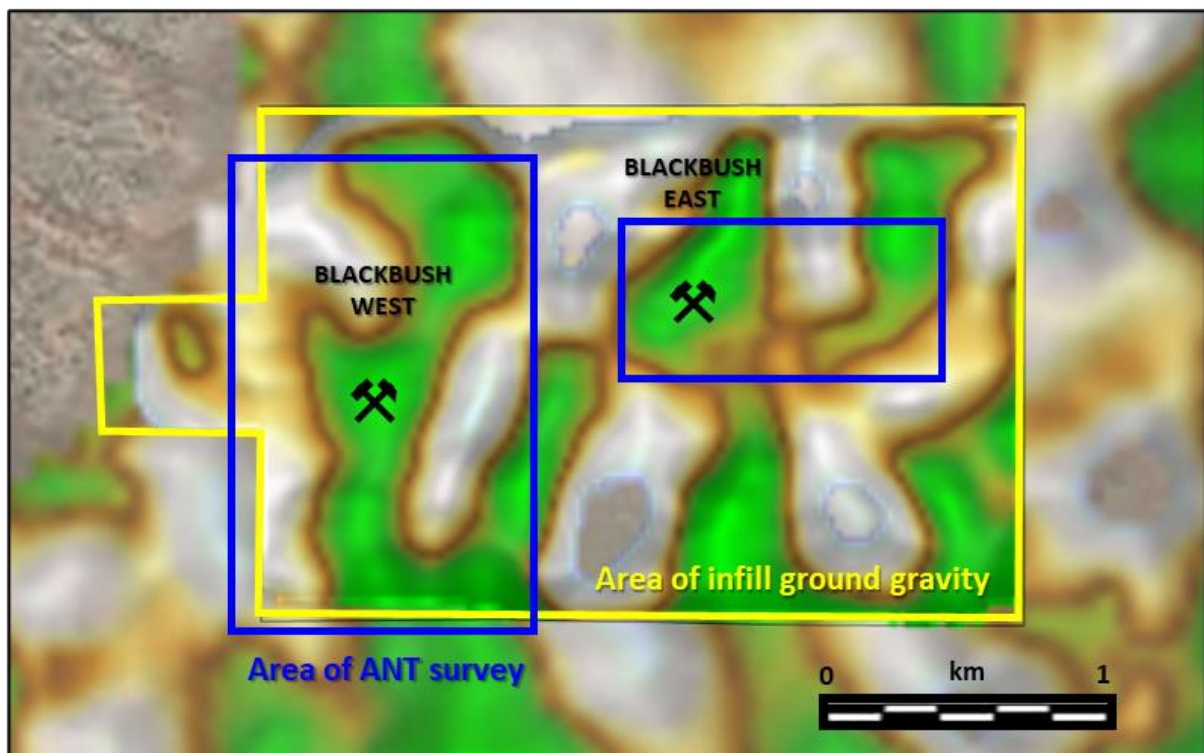


Figure 3 – Location trial 3D Ambient Noise Tomography (ANT) acquisition superimposed on infill ground gravity image – Samphire palaeochannel system, Blackbush Deposit.

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

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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

