Samphire Uranium Project – resource drilling complete and Mineral Resource Estimate underway

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Alligator Energy (ASX: AGE, 'Alligator' or 'the **Company')** is pleased to advise that additional resource drilling flagged in our 8 June 2023 ASX release has been completed at the Blackbush deposit (**Blackbush**), Samphire Uranium Project south of Whyalla, South Australia.

Highlights:

- **Exceptional high grade uranium results obtained within Blackbush JORC Mineral Resource envelope supports confidence of further conversion of Mineral Resource Estimate from Inferred to Indicated status.**
- **Resource drilling is now complete for 2023. A total of 118 holes (for 10,149 m) were drilled in the calendar year with 82 holes (7,033 m) drilled in Blackbush West since the previous announcement on drill results[1]. AMC Consultants are currently updating the Mineral Resource Estimate (MRE) due in November.**

  Some of the significant uranium mineralisation intersections over 2,000GT[2] (*Figure 1*) include:

  - **BBRM23-121 - 4.82m @ 0.591% (5,910ppm) pU_3O_8[3] from 63.82 m (GT 28,486)**
  - **BBRM23-121 - 3.22m @ 0.628% (6,280ppm) pU_3O_8 from 69.06 m (GT 20,222)**
  - **BBRM23-122 - 4.36m @ 0.267% (2,670ppm) pU_3O_8 from 70.24 m (GT 11,641)**
  - **BBRM23-123 - 2.90m @ 0.121% (1,210ppm) pU_3O_8 from 69.42 m (GT 11,641)**
  - **BBRM23-142 - 2.18m @ 0.394% (3,940ppm) pU_3O_8 from 61.52 m (GT 8,589)**
  - **BBRM23-163 - 2.48m @ 0.893% (8,930ppm) pU_3O_8 from 75.30 m (GT 22,146)**
  - **BBRM23-161 - 2.30m @ 0.717% (7,170ppm) pU_3O_8 from 76.96 m (GT 16,491)**
  - **BBRM23-171 - 3.06m @ 0.440% (4,400ppm) pU_3O_8 from 69.46 m (GT 13,464)**
  - **BBRM23-198 - 4.40m @ 0.174% (1,740ppm) pU_3O_8 from 62.20 m (GT 7,656)**
  - **BBRM23-199 - 1.36m @ 0.444% (4,440ppm) pU_3O_8 from 59.94 m (GT 6,038)**

- **Several holes drilled on the limit of the Inferred Mineral Resource confirms uranium mineralisation extends beyond the known MRE outline which will be the focus for year-round drilling commencing late January 2024.**

  - A Heritage Survey with representatives from the Barngarla Determination Aboriginal Corporation (BDAC) was conducted in late August to enable drilling of these extensions in addition to drilling new areas outside of the Blackbush mineralisation envelope.

[1] ASX Announcement 8 June 2023; Drilling Results update, Samphire Uranium Project, 05ggptcf2sxpsh.pdf (asx.com.au)
[2] *GT= grade(ppm) x thickness(m) – divide by 10,000 for m% GT*
[3] 1Note: pU3O8 denotes that the grade has been determined by PFN downhole logging.

- We are confident this will lead to further resource expansion as we head into our Field Recovery Trial and Feasibility Study in 2024

- **Installation of an array of hydrogeological investigation wells has commenced to and enable further evaluation of groundwater chemistry baselines for Blackbush.**
- **Adelaide-based Wallbridge Gilbert Aztec (WGA) consultants have been engaged to update the Scoping Study[4] for Samphire targeting an increased production rate, with completion in November once the MRE is finalised and integrated into the financial and production models.**
- **13 submissions were received from the public consultation on Alligator's Retention Lease (RL) application to conduct a field recovery trial at Samphire (Blackbush Deposit). In total 85% of submissions were received from community members with the remainder from NGO's. AGE is now considering and will respond to public submissions as part of the next steps toward granting of the RL.**
- **Off-site fabrication of the Field Recovery Trial pilot plant by Adelaide Control Engineering (ACE) is well advanced targeting December 2023 completion.**
- **Work has commenced on preparing an Exploration Target Range for the Samphire Project covering both the wider Blackbush Deposit and Plumbush Deposit, targeting completion in November.**

Alligator's CEO Greg Hall stated: *"Our Samphire team have achieved excellent drilling results despite some significant rain delays early in the year reducing our metres drilled. The consistency of grades within the Blackbush deposit bodes well for our Field Recovery Trial (FRT) which is planned to commence in Q1 2024 (subject to regulatory approvals). With work underway on the Resource update, we are now updating our Scoping Study based on an increased production schedule, subject to confirmation of the new Indicated resource level.*

I wish also to mention the continuing exceptional work by our Project and Environmental Team, and Watsons drilling contractors on minimising impacts on ground while we drill. The techniques and procedures developed and adopted, including rolling the bush, maintaining the important root stock, single track with truck access spotting, limiting track widths and cornering, mean a much faster rehabilitation with an increased bush density. We have planted and are watering over 400 native trees, fencing off areas to speed up rehabilitation, and have identified key areas for future significant habitat and offsets for areas cleared.

Our successful capital raise (placement and SPP) means we are now in an excellent position to advance Samphire through to approvals and development ready stage. We are continuing to recruit the key expertise to enable this, with an additional hydrogeologist recently engaged, and further expertise being sought in study manager roles. Our personnel are engaging with pastoralists, community, the Barngarla group, and wider regional and State stakeholders to ensure transparency and openness regarding the Project impacts and opportunities. We are now utilising the services of over 30 companies within Whyalla and regions and have had significant early discussion with potential uranium offtake customers internationally."

[4] *ASX Announcement 13 March 2023; Scoping Study – Samphire Uranium Project,* 45mmn6z3xk5r5p.pdf (asx.com.au)

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Samphire 2023 Drilling Program Completed

Resource drilling has been completed at the Blackbush Deposit with continued focus on increasing the confidence of the Mineral Resource Estimate (MRE) through conversion of the Inferred category to Indicated status (refer Figure 1).

Drilling was carried out primarily in the Blackbush West area, with much of the drilling concentrating on the northern area which historically had very little Prompt Fission Neutron (PFN) acquired grade data (pU_3O_8) which is required for conversion of the mineral resource to Indicated status. Several significant uranium intercepts were encountered in the northern (BBRM23-126, BBRM23-128, BBRM23-133, BBRM23-136, BBRM23-142 & BBRM23-144) and southern (BBRM23-121, BBRM23-122, BBRM23-123, BBRM23-124, BBRM23-154, BBRM23-161, BBRM23-163, BBRM23-171, BBRM23-175 & BBRM23-184) areas of Blackbush West showing that high-grade mineralisation extends beyond the area of the current Indicated Resource (Figure 1). Mineralisation also remains open to the west which will be drilled at the recommencement of drilling in January 2024. AMC Consultants have been provided the additional drill data targeting an update to the MRE mid-November 2023.

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 are listed in Appendix 1, Table 1.

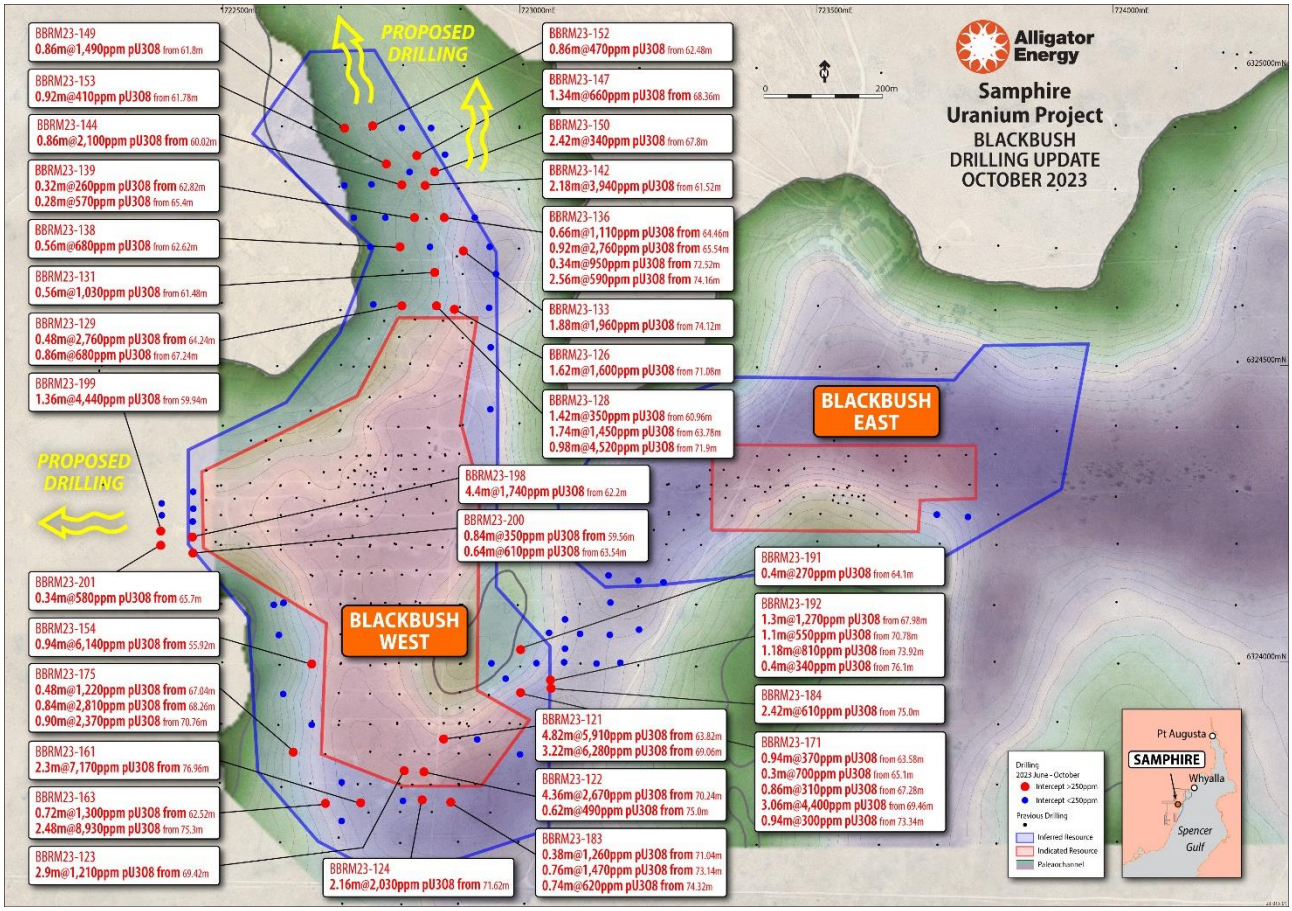

Figure 1: Current Inferred resource area outline (blue) and Indicated Resource area outline (red) showing AGE 2023 drilling focussed within the Inferred Resource envelope.

A Heritage Survey was conducted over a wider area at Samphire (Figure 2) on 29 August 2023 with representatives from the Barngarla Determination Aboriginal Corporation (BDAC). This survey now allows for further ground gravity to be acquired next year to map the paleochannel system in these areas and drilling targeting potential additional roll-front uranium mineralisation within the palaeochannel system outside of the Blackbush mineralisation envelope.

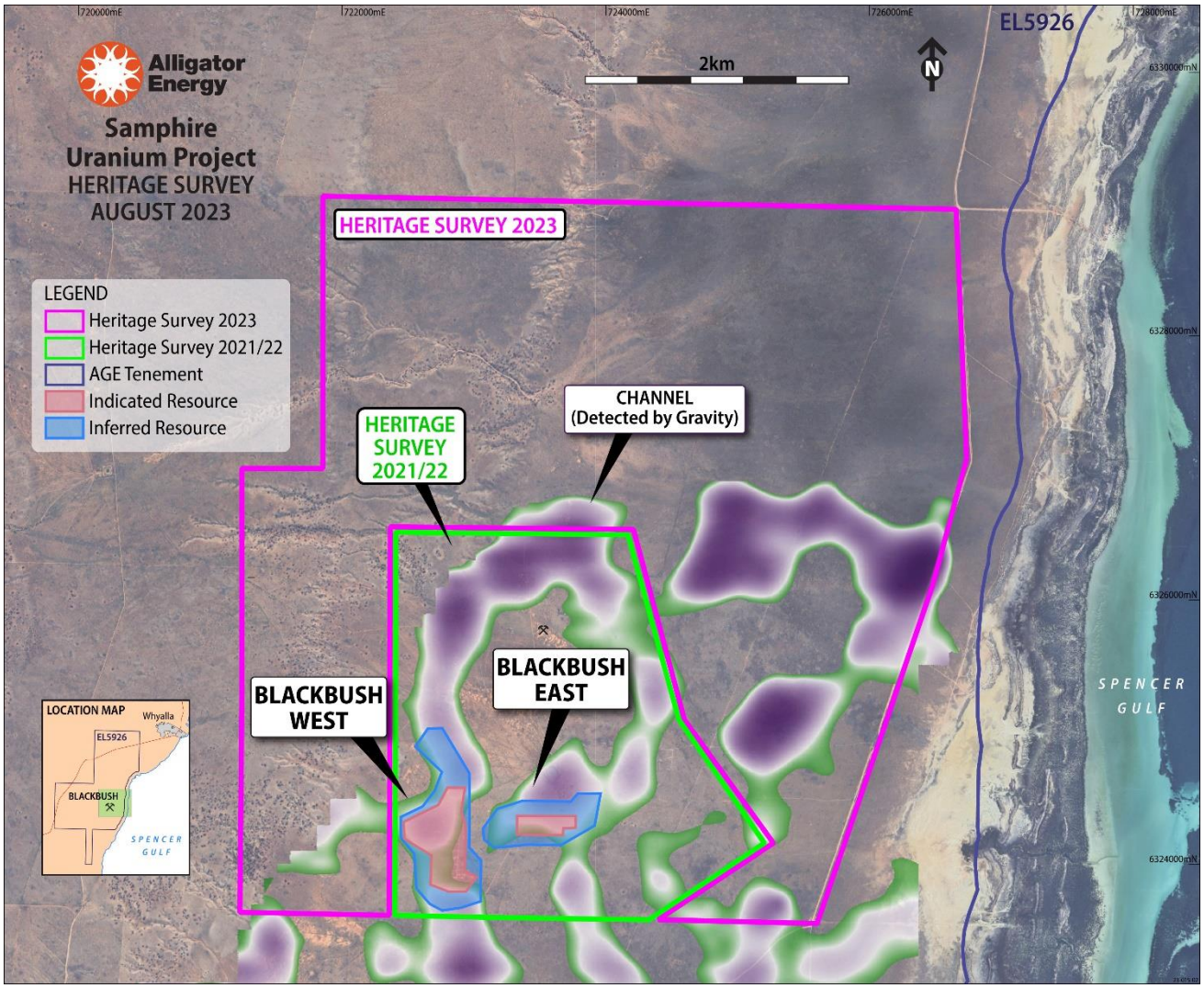

Figure 2: Outline of Heritage Surveys undertaken by AGE - 2021/2022 and August 2023.

Field Recovery Trial

Fabrication of the containerised pilot plant for the FRT continues, with ACE undertaking the design and fabrication, with input from Alligator's Process Chemist. The pilot plant is targeted for completion in December 2023. Current status includes:

- The wellhouse is 95% complete awaiting electrical fit out (Photos 1).
- Ion exchange (IX) containerised module will commence construction at the end of October post arrival of the 3 IX columns (Photo 2).
- All parts and equipment for the reverse osmosis unit have been received and containerised assembly is in progress.

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- Orders for the submersible downhole pumps for the extractor wells have been placed.

Project management group, ammjohn, are assisting with project controls and site civil design.

Photo 1: Progress of well house fabrication inside transportable container for Field Recovery Trial pilot plant - off-site fabrication.

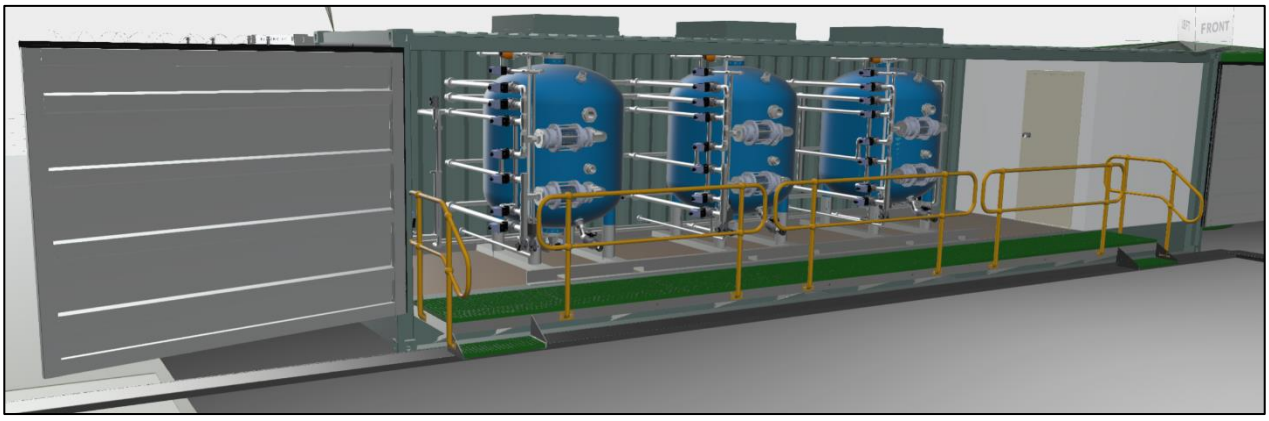

Photo 2: 3D Model of containerised IX module

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This announcement was authorised for release by the CEO and Managing Director.

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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.

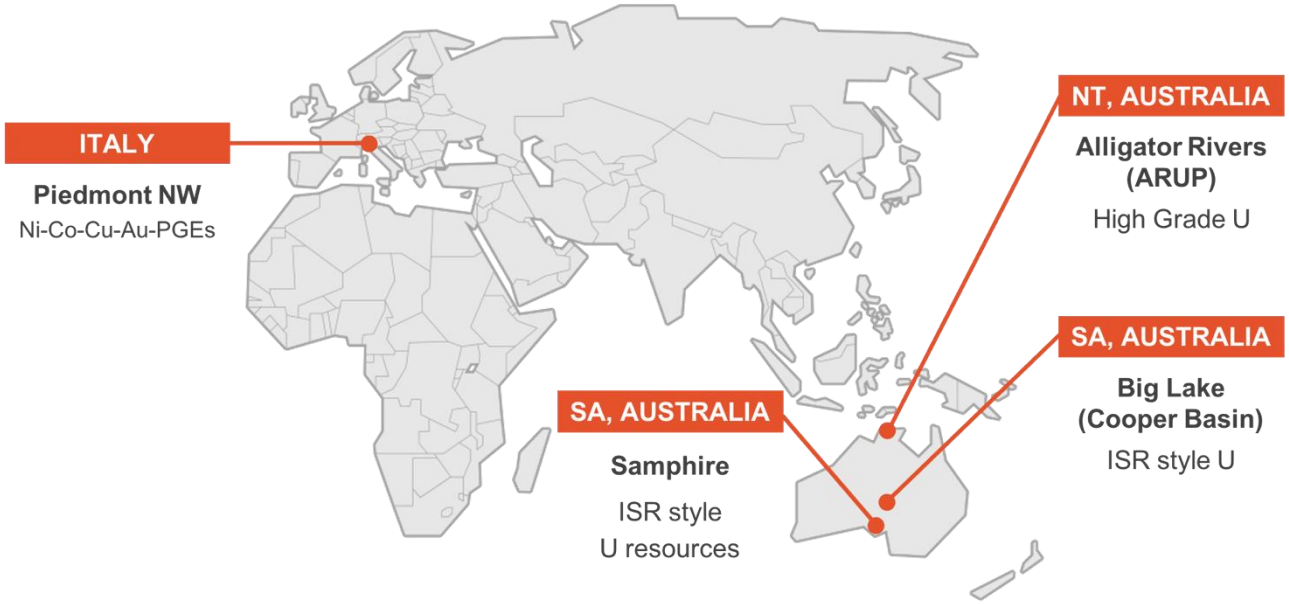
Competent Person's Statement

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 21 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



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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.

Note: pU3O8 grades have been acquired 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 calculated 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}*

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%
BBRM23-120	722929	6323874	21.1	000	-90	89.0	71.52	73.74	2.24	0.023	230	515	0.052
BBRM23-120	722929	6323874	21.1	000	-90	89.0	74.48	75.72	1.26	0.023	230	290	0.030
BBRM23-121	722873	6323874	22.1	000	-90	75.0	63.82	68.62	4.82	0.591	5910	28486	2.850
BBRM23-121	722873	6323874	22.1	000	-90	75.0	69.06	72.26	3.22	0.628	6280	20222	2.021
BBRM23-122	722841	6323820	21.5	000	-90	83.0	70.24	74.58	4.36	0.267	2670	11641	1.163
BBRM23-122	722841	6323820	21.5	000	-90	83.0	75	75.6	0.62	0.049	490	304	0.031
BBRM23-123	722807	6323821	21.5	000	-90	85.0	69.42	72.3	2.9	0.121	1210	3509	0.351
BBRM23-124	722838	6323772	20.6	000	-90	84.0	71.62	73.76	2.16	0.203	2030	4385	0.438
BBRM23-126	722892	6324596	21.4	000	-90	90.0	71.08	72.68	1.62	0.16	1600	2592	0.259
BBRM23-128	722862	6324601	21.4	000	-90	90.0	60.96	62.36	1.42	0.035	350	497	0.049
BBRM23-128	722862	6324601	21.4	000	-90	90.0	63.78	65.5	1.74	0.145	1450	2523	0.252
BBRM23-128	722862	6324601	21.4	000	-90	90.0	71.9	72.86	0.98	0.452	4520	4430	0.443
BBRM23-129	722804	6324602	22.1	000	-90	78.0	67.24	68.08	0.86	0.068	680	585	0.058
BBRM23-131	722858	6324657	22.4	000	-90	87.0	61.48	62.02	0.56	0.103	1030	577	0.058
BBRM23-132	722961	6324655	21.3	000	-90	92.0	82.74	84.3	1.58	0.084	840	1327	0.133
BBRM23-133	722906	6324694	22.2	000	-90	90.0	74.12	75.98	1.88	0.196	1960	3685	0.368
BBRM23-136	722875	6324749	22.8	000	-90	91.0	64.46	65.1	0.66	0.111	1110	733	0.073
BBRM23-136	722875	6324749	22.8	000	-90	91.0	65.54	66.44	0.92	0.276	2760	2539	0.254
BBRM23-136	722875	6324749	22.8	000	-90	91.0	74.16	76.7	2.56	0.059	590	1510	0.151
BBRM23-138	722800	6324700	23.3	000	-90	78.0	62.62	63.17	0.56	0.068	680	381	0.038
BBRM23-138	722800	6324700	23.3	000	-90	78.0	63.8	64.29	0.5	0.017	170	85	0.009
BBRM23-138	722800	6324700	23.3	000	-90	78.0	64.68	66.52	1.85	0.057	570	1055	0.105
BBRM23-138	722800	6324700	23.3	000	-90	78.0	67.21	68.14	0.94	0.111	1110	1043	0.104
BBRM23-138	722800	6324700	23.3	000	-90	78.0	71.5	72.46	0.97	0.127	1270	1232	0.123
BBRM23-139	722824	6324749	23.4	000	-90	81.0	74.4	75.22	0.84	0.06	600	504	0.051
BBRM23-141	722775	6324749	23.5	000	-90	76.0	69.28	70.04	0.78	0.054	540	421	0.042
BBRM23-142	722842	6324804	23.2	000	-90	105.0	61.52	63.68	2.18	0.394	3940	8589	0.859
BBRM23-142	722842	6324804	23.2	000	-90	105.0	67.1	70.34	3.26	0.091	910	2967	0.297
BBRM23-144	722803	6324805	23.6	000	-90	78.0	60.02	60.86	0.86	0.21	2100	1806	0.181
BBRM23-144	722803	6324805	23.6	000	-90	78.0	66.82	67.72	0.92	0.306	3060	2815	0.281
BBRM23-144	722803	6324805	23.6	000	-90	78.0	69.84	70.18	0.36	0.018	180	65	0.007
BBRM23-145	722752	6324805	24.1	000	-90	76.0	70.3	71.32	1.04	0.035	350	364	0.037

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BBRM23-147	722829	6324853	23.5	000	-90	84.0	68.36	69.68	1.34	0.066	660	884	0.089
BBRM23-148	722803	6324899	23.8	000	-90	79.0	70.68	71.54	0.88	0.039	390	343	0.034
BBRM23-149	722707	6324899	24.4	000	-90	80.0	61.8	62.64	0.86	0.149	1490	1281	0.128
BBRM23-149	722707	6324899	24.4	000	-90	80.0	73.74	74.9	1.18	0.069	690	814	0.082
BBRM23-149	722707	6324899	24.4	000	-90	80.0	75.58	76.1	0.54	0.037	370	200	0.020
BBRM23-150	722858	6324827	22.8	000	-90	84.0	67.8	70.2	2.42	0.034	340	823	0.082
BBRM23-150	722858	6324827	22.8	000	-90	84.0	71.66	73.2	1.56	0.094	940	1466	0.147
BBRM23-152	722755	6324904	24.4	000	-90	82.0	62.48	63.32	0.86	0.047	470	404	0.040
BBRM23-152	722755	6324904	24.4	000	-90	82.0	67.14	67.84	0.72	0.108	1080	778	0.078
BBRM23-153	722777	6324839	24.1	000	-90	78.0	61.78	62.68	0.92	0.041	410	377	0.038
BBRM23-153	722777	6324839	24.1	000	-90	78.0	66.18	67.22	1.06	0.171	1710	1813	0.181
BBRM23-154	722652	6324000	22.4	000	-90	85.0	55.92	56.84	0.94	0.614	6140	5772	0.577
BBRM23-154	722652	6324000	22.4	000	-90	85.0	57.84	58.8	0.98	0.04	400	392	0.039
BBRM23-156	722652	6323898	21.7	000	-90	84.0	57.92	58.86	0.96	0.117	1170	1123	0.112
BBRM23-156	722652	6323898	21.7	000	-90	84.0	59.38	60.38	1.02	0.077	770	785	0.079
BBRM23-156	722652	6323898	21.7	000	-90	84.0	75.1	75.7	0.62	0.028	280	174	0.017
BBRM23-156	722652	6323898	21.7	000	-90	84.0	76.6	78.1	1.52	0.086	860	1307	0.130
BBRM23-161	722734	6323767	22.1	000	-90	91.0	76.96	79.24	2.3	0.717	7170	16491	1.649
BBRM23-162	722702	6323802	22.0	000	-90	85.0	48.66	49.47	0.82	0.03	300	246	0.024
BBRM23-162	722702	6323802	22.0	000	-90	85.0	51.36	52.47	1.12	0.04	400	448	0.045
BBRM23-162	722702	6323802	22.0	000	-90	85.0	53.74	55.39	1.66	0.032	320	531	0.053
BBRM23-163	722676	6323767	22.7	000	-90	92.0	62.52	63.22	0.72	0.13	1300	936	0.094
BBRM23-163	722676	6323767	22.7	000	-90	92.0	75.3	77.76	2.48	0.893	8930	22146	2.213
BBRM23-170	723129	6324001	20.3	000	-90	94.0	52.8	53.42	0.64	0.019	190	122	0.012
BBRM23-171	723002	6323953	20.2	000	-90	85.0	63.58	64.5	0.94	0.037	370	348	0.035
BBRM23-171	723002	6323953	20.2	000	-90	85.0	67.28	68.12	0.86	0.031	310	267	0.027
BBRM23-171	723002	6323953	20.2	000	-90	85.0	69.46	72.5	3.06	0.44	4400	13464	1.346
BBRM23-171	723002	6323953	20.2	000	-90	85.0	73.34	74.26	0.94	0.03	300	282	0.028
BBRM23-173	722953	6324001	19.7	000	-90	74.0	51.96	52.44	0.5	0.022	220	110	0.011
BBRM23-175	722622	6323853	22.5	000	-90	82.0	57.28	58.24	0.98	0.052	520	510	0.051
BBRM23-175	722622	6323853	22.5	000	-90	82.0	60	60.5	0.52	0.07	700	364	0.037
BBRM23-175	722622	6323853	22.5	000	-90	82.0	68.26	69.08	0.84	0.281	2810	2360	0.236
BBRM23-175	722622	6323853	22.5	000	-90	82.0	70.76	71.64	0.9	0.237	2370	2133	0.213
BBRM23-175	722622	6323853	22.5	000	-90	82.0	72.3	72.82	0.54	0.022	220	119	0.012
BBRM23-183	722885	6323768	20.7	000	-90	87.0	73.14	73.88	0.76	0.147	1470	1117	0.112
BBRM23-183	722885	6323768	20.7	000	-90	87.0	74.32	75.04	0.74	0.062	620	459	0.046
BBRM23-184	723054	6323960	20.4	000	-90	90.0	75	77.4	2.42	0.061	610	1476	0.147
BBRM23-188	722977	6323976	19.9	000	-90	81.0	52.58	53.44	0.88	0.043	430	378	0.038
BBRM23-191	723003	6324025	19.6	000	-90	92.0	53.98	54.46	0.5	0.155	1550	775	0.077
BBRM23-192	723053	6323974	20.1	000	-90	95.0	67.98	69.26	1.3	0.127	1270	1651	0.165
BBRM23-192	723053	6323974	20.1	000	-90	95.0	70.78	71.86	1.1	0.055	550	605	0.061
BBRM23-192	723053	6323974	20.1	000	-90	95.0	73.92	75.08	1.18	0.081	810	956	0.096
BBRM23-198	722453	6324214	24.5	000	-90	90.0	59.24	60.14	0.92	0.024	240	221	0.022
BBRM23-198	722453	6324214	24.5	000	-90	90.0	62.2	66.58	4.4	0.174	1740	7656	0.767
BBRM23-199	722399	6324223	24.4	000	-90	95.0	59.94	61.28	1.36	0.444	4440	6038	0.604

BBRM23-200	722454	6324186	24.8	000	-90	87.0	59.56	60.38	0.84	0.035	350	294	0.030
BBRM23-200	722454	6324186	24.8	000	-90	87.0	63.54	64.16	0.64	0.061	610	390	0.039

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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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *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. • 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. • 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). • All holes were vertical.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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*	Chip/mud samples were collected 2m in non-target areas and then 1m in the zones of interest (i.e. the target Kanaka Beds). • All samples are geologically logged compliant with industry standards which

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	metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	included lithology, mineralogy, grain size/rounding/sorting, colour, redox. • 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.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *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. • 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. • 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.* • *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.* • *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: • Prompt Fission Neutron Tool (PFN) serial number 22 manufactured by Geoinstruments Inc, Nacogdoches, Texas. Neutron generator 78-80kV, logging at 0.5m/minute. • 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. • 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.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• 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. • Natural gamma (on the caliper tool) was used for depth matching the PFN. • 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 estimation.*	• Drillholes are sited using a Garmin handheld GPS • Drilled holes are surveyed Leica iCON GPS 60 which uses the 4G network to obtain corrections from SmartNet base stations

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	• *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	(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. • Grid system GDA94 Projection 53H
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *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. • pU3O8 intercepts calculated above 0.5m minimum thickness, >0.025% pU_3O_8 (250ppm pU3O8) with internal dilution 0.25m • 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.* • *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. 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.* • *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. • EL5926 is 100% held by S Uranium Pty Ltd a wholly owned subsidiary of Alligator Energy Ltd. • 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

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		Plumbush (JORC2004) and Blackbush (JORC2012) resources and all relevant drilling, geophysics except ground magnetics conducted by AGE in 2021. • USA conducted preliminary Insitu Recovery (ISR) hydrogeological testwork on the Blackbush deposit with pump testing and hydrogeological modelling. • 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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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 that relates to historic drilling was previously reported by Uranium SA (ASX: USA) in ASX release "Samphire Project Update" 27 September 2013. • Drillhole information relating to post 2021 are summarised in Table 1 Appendix 1 of the following releases: ○ ASX release "Exceptional High Grade Uranium Results – Samphire Project" March 29, 2022 ○ ASX release "Resource Drilling complete with highest grades found so far at Samphire Uranium Project" November 23, 2022 ○ ASX release "Samphire Drilling Update" June 8, 2023. ○ Table 1 Appendix 1 of this release.
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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	**Rotary Mud** pU3O8 intercepts for both rotary mud holes are calculated above 0.5m minimum thickness, >0.025% pU_3O_8 (250ppm pU3O8) with internal dilution 0.25m
Relationship between mineralisation widths and	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is*	• 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.

Criteria	JORC Code explanation	Commentary
intercept lengths	*known, its nature should be reported.* • *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').*	
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. • 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).* • *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 2024 includes: • Further exploration drilling outside of the Blackbush Mineral Resource,

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