

ASX:AGE

Advancing Samphire Uranium Project into Trial Production



**Alligator
Energy**

Bell Potter Unearthed
Greg Hall – CEO – February 2024

Forward Looking Statements

This presentation 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 – Uranium and Previously Reported Information

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 by Alligator Energy as Chief Operating Officer (COO) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity she is undertaking (including 15 years working with ISR uranium development and operations) 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.

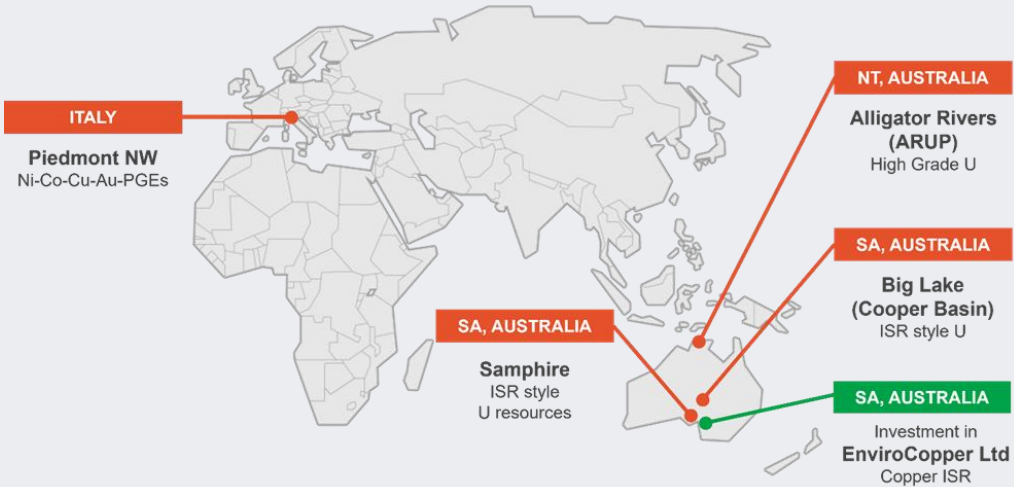
In relation to Exploration results and Mineral Resource estimates referred to in the announcements referred to on slides 7,9,10,11,12,13,14 and 19 the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. In relation to production target referred to on slides 10 and 12, the Company confirms that all material assumptions underpinning the production target, and the forecast financial information derived from the production target, in the initial announcement continue to apply and have not materially changed.

Competent Person's Statement – Nickel Cobalt exploration

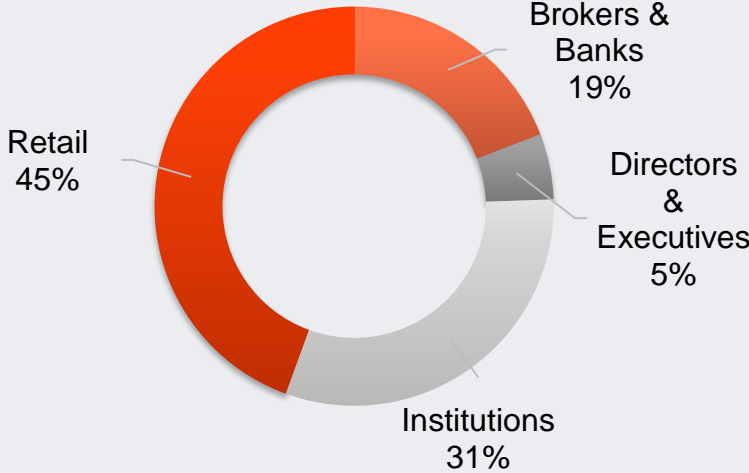
Information in this report is based on current and historic Exploration Results compiled by Mr Geoffrey Chapman who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Chapman is a Consultant Geologist with Alligator Energy Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he 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. Mr Chapman consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.

Capital Structure (as at 29 Jan 2025)

Share Price	\$0.036
Ordinary Shares	3,873.6 M
Perf Shares, Listed & Unlisted Options	462.2 M
Cash as at 31 Dec 2024	\$ 20.2 M
Market Cap	\$140 M

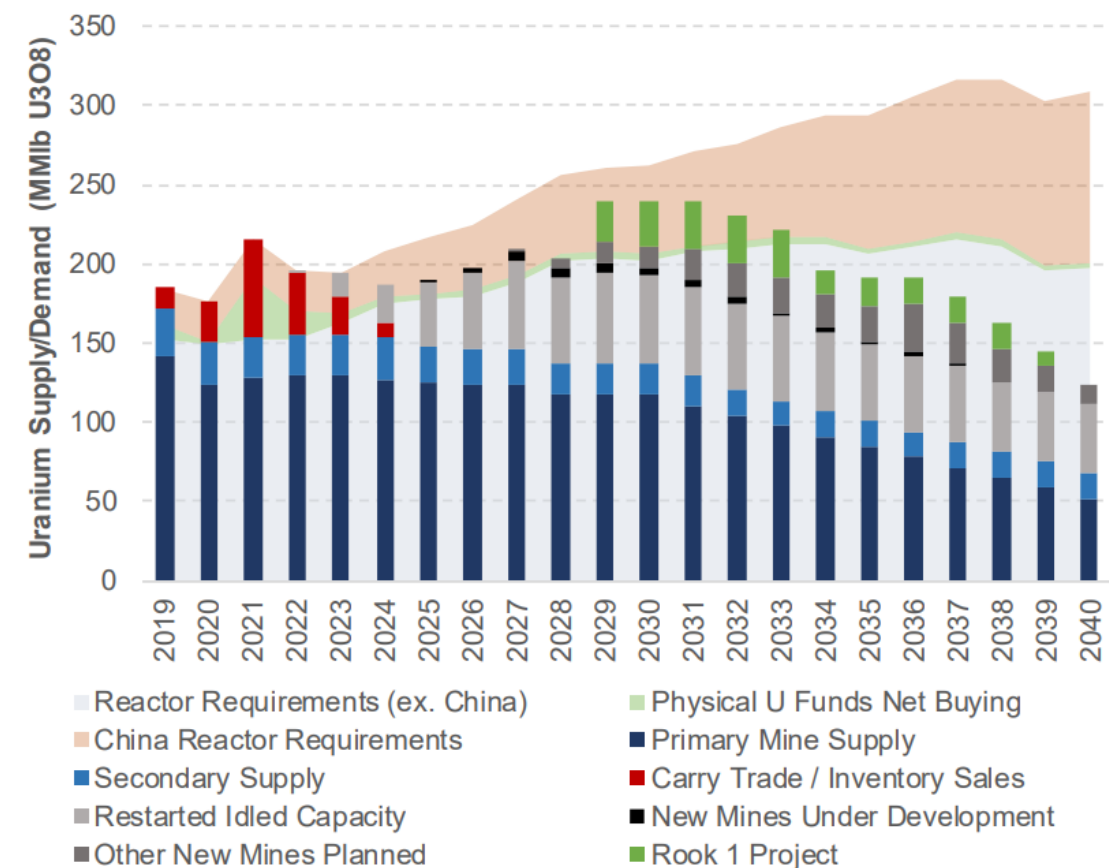


Top 50 Shareholders



Uranium and Nuclear Fuel market

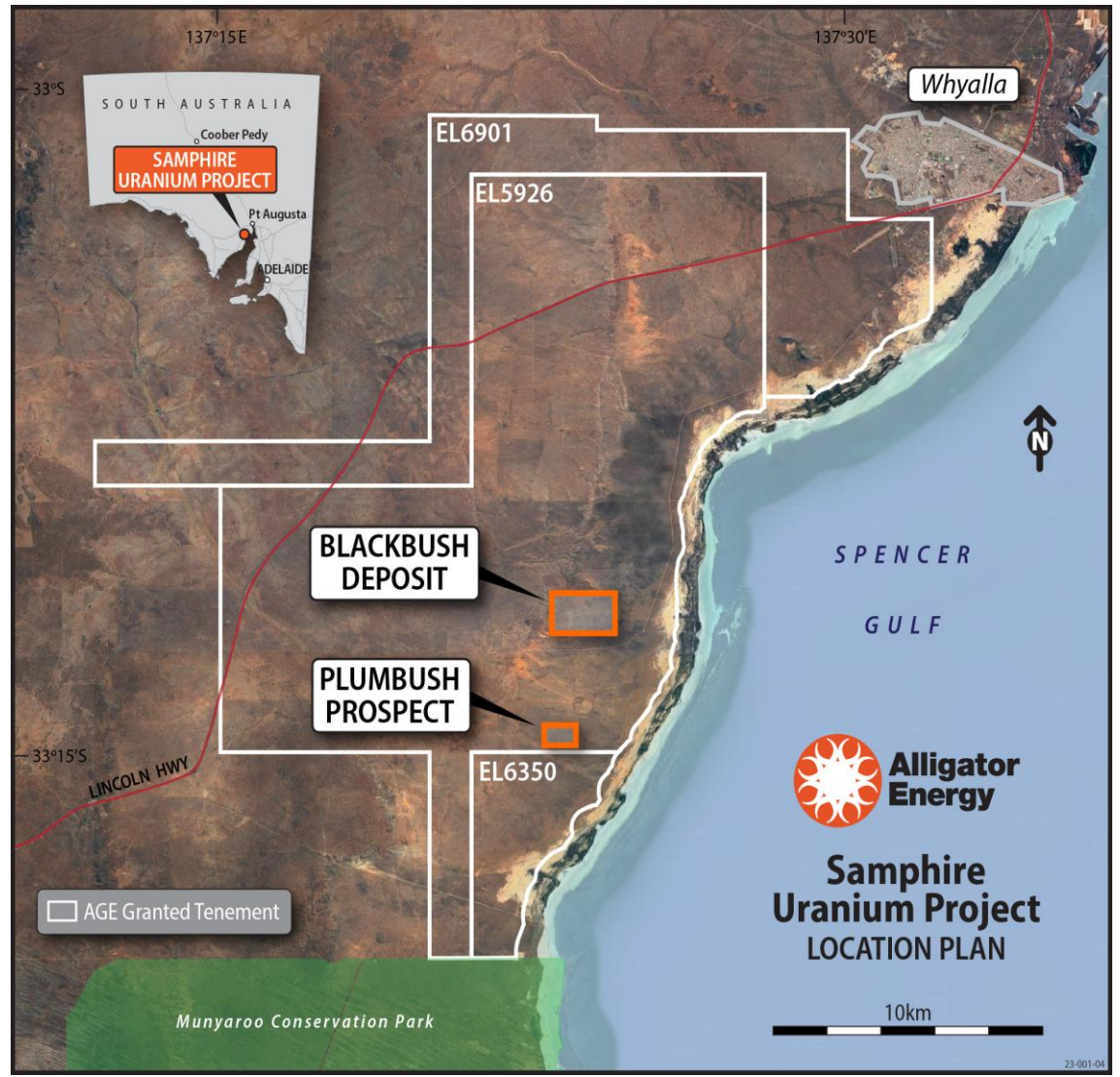
Exhibit 1. Updated Supply/Demand Model



Source: Cantor Fitzgerald

- Primary mine supply, mine re-starts, new mines under development plus new planned mines still potentially not adequate for future supply.
- Re-starts and new mines are experiencing delays mainly due to time to get technical studies work done, approvals and usual ramp up and commissioning issues.
- Geopolitics impacting supply – US restrictions on Russian imports, and now Russia banning EUP sales to the US.
- Reliable nuclear power for AI driven data-centre expansion being targeted and supported across the globe.
- Many utilities now coming out for long-term U₃O₈ supply requests from 2028 onwards – term price at US\$79 per lb. Spot price below LT price which is the norm as this is usually a clearing market.
- European countries moving faster to change previous nuclear phase out policies and allow new build – multiple MoU's for SMRs in place
- US policies very supportive of nuclear plant life extensions and new build.
- All gulf state countries enlarging nuclear growth plans – becoming future major uranium purchasers.

Samphire Uranium project: South Australia – experience in uranium





20kms from Whyalla, SA

Excellent regional infrastructure and skilled labour-force



Robust Scoping Study- 1.2 Mlb / annum prod.

A\$131m capex, 42% IRR, and 2.45 yr payback

Refer ASX release 14 December 2023 "Scoping Study Update"



JORC compliant resource

17.5 Mlbs uranium resource with significant scope for further growth



Pilot plant planned

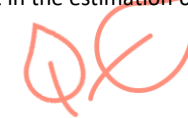
Fabricated and delivered to site. Construction in Q4 subject to approvals



Regional exploration opportunities

Exploration Target estimates additional 14 - 75 Mlbs

Note: the potential quantity and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to date to estimate a Mineral Resource and it remains uncertain whether further exploration will result in the estimation of a Mineral Resource



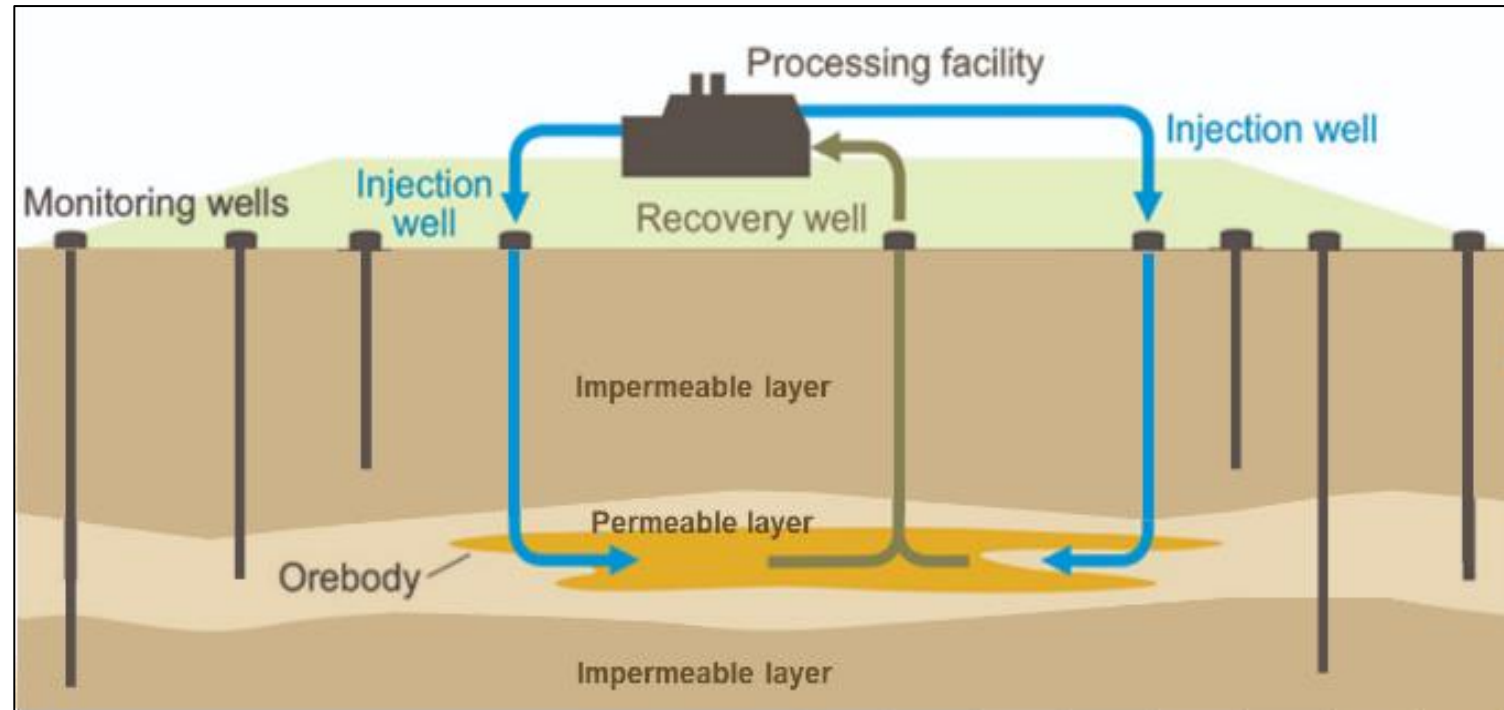
ESG

Strong ESG credentials, with environmental commendation awarded by SA government

Samphire Uranium project: A highly competitive In-Situ Recovery project

- **Initial low capital cost estimate of A\$131 million**, despite significant contingencies and inflation totalling 35%.
- **AISC at the lower end of cost curve**, due to:
 - In-situ Recovery (ISR) amenable,
 - nature of the deposit, shallow depth, excellent formation porosity, and
 - high leaching dynamics.
- **Location** near Whyalla affords lower cost of key infrastructure, locally based workforce (i.e. no FIFO or camp), experienced mining services and business support.
- **Expansion potential** - Exploration Target Range (Dec 23) estimating an additional 14 - 75 Mlbs on top of 17.5Mlbs resource. Multi-year resource extension and step-out drilling to increase mine life and production rate.
- Field Recovery Trial on receipt of final operating plan regulatory approval to **de-risk project** and confirm parameters to be used in feasibility study during 2H 2025

Conceptual Model of ISR



Samphire Uranium Project – Dec 2023 Scoping Study† : 1.2 Mlbs pa project

Study metrics* at US\$75 / lb uranium price



A\$131m

CAPEX
(including contingency)



2.45 years

Payback



42%

IRR*
(post-tax, real,
ungeared)



A\$257m

NPV₈*
(post-tax, real,
ungeared)



US\$33.31/lb

AISC
(A\$47.58/lb)



US\$16.06/lb

Cash Costs
(A\$22.94 /lb)

Study metrics* based on analysts current long-term price projections of US\$90 / lb



A\$131m

CAPEX
(including contingency)



1.93 years

Payback



55%

IRR*
(post-tax, real,
ungeared)



A\$371m

NPV₈*
(post-tax, real,
ungeared)



US\$34.06/lb

AISC
(A\$48.96/lb)

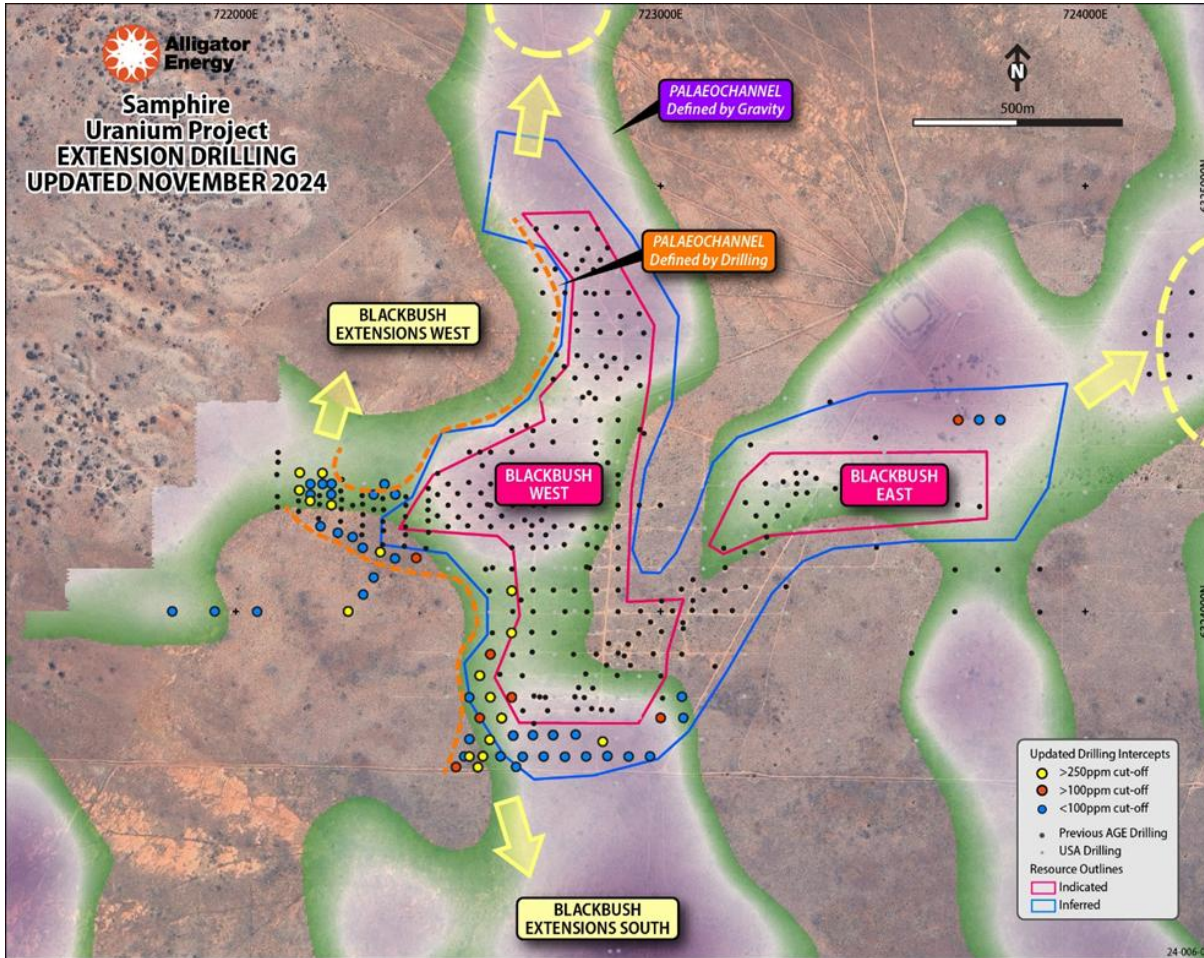


US\$16.06/lb

Cash Costs
(A\$22.94/lb)

† Ref ASX release 14 December 2023 "Scoping Study Update": Alligator confirms that all material assumptions underpinning the 'production target' or the forecast financial information derived from the 'production target' continue to apply and have not materially changed other than the outlook for the long-term uranium price as set out above; *Calculated using 0.70 US/A\$ exchange rate inclusion of significant contingencies and inflation of 35%.

Samphire Uranium Project – Blackbush 2024 Drilling and resource update



Significant uranium mineralisation intersections from Blackbush West uranium roll fronts has delivered further targets outside of the Inferred mineral resource. Announced in ASX release dated 21 Nov 2024:

- BBRM24-304: 1.3 meters at 1.94% (19,391ppm) pU_3O_8 from 62.6m (GT 25,208)
- BBRM24-278: 1.1 meters at 0.44% (4,392ppm) pU_3O_8 from 62.94m (GT 4,832)
- BBRM24-338: 2.4 meters at 0.20% (1,948ppm) pU_3O_8 from 56.7m (GT 4,675)
- BBRM24-321: 1.1 meters at 0.36% (3,633ppm) pU_3O_8 from 58.59m (GT 3,996)
- BBRM24-282: 1.7 meters at 0.23% (2,314ppm) pU_3O_8 from 63.1m (GT 3,934)
- BBRM24-283: 0.8 meters at 0.45% (4,506ppm) pU_3O_8 from 65.03m (GT 3,604)
- BBRM24-318: 0.7 meters at 0.36% (3,566ppm) pU_3O_8 from 59.1m (GT 2,497)
- BBRM24-330: 0.8 meters at 0.18% (1,791ppm) pU_3O_8 from 63.1m (GT 1,433)
- BBRM24-314: 0.6 meters at 0.17% (1,734ppm) pU_3O_8 from 59.14m (GT 1,040)

An update of the JORC Resource Estimate inclusive of all 2024 drill results to be completed in Q1, 2025, targeting both resource expansion and category conversion from inferred to indicated

Note: pU_3O_8 denotes that the grade has been determined by Prompt Fission Neutron downhole logging

$GT = \text{grade}(\text{ppm}) \times \text{thickness}(\text{m}) - \text{divide by } 10,000 \text{ for } m\% \text{ GT}$

ASX release 1 May 2024 – Extension of Uranium Mineralisation at Samphire, and ASX release 21 Nov 2024 – Significant Drilling Results – Samphire Uranium Project Update

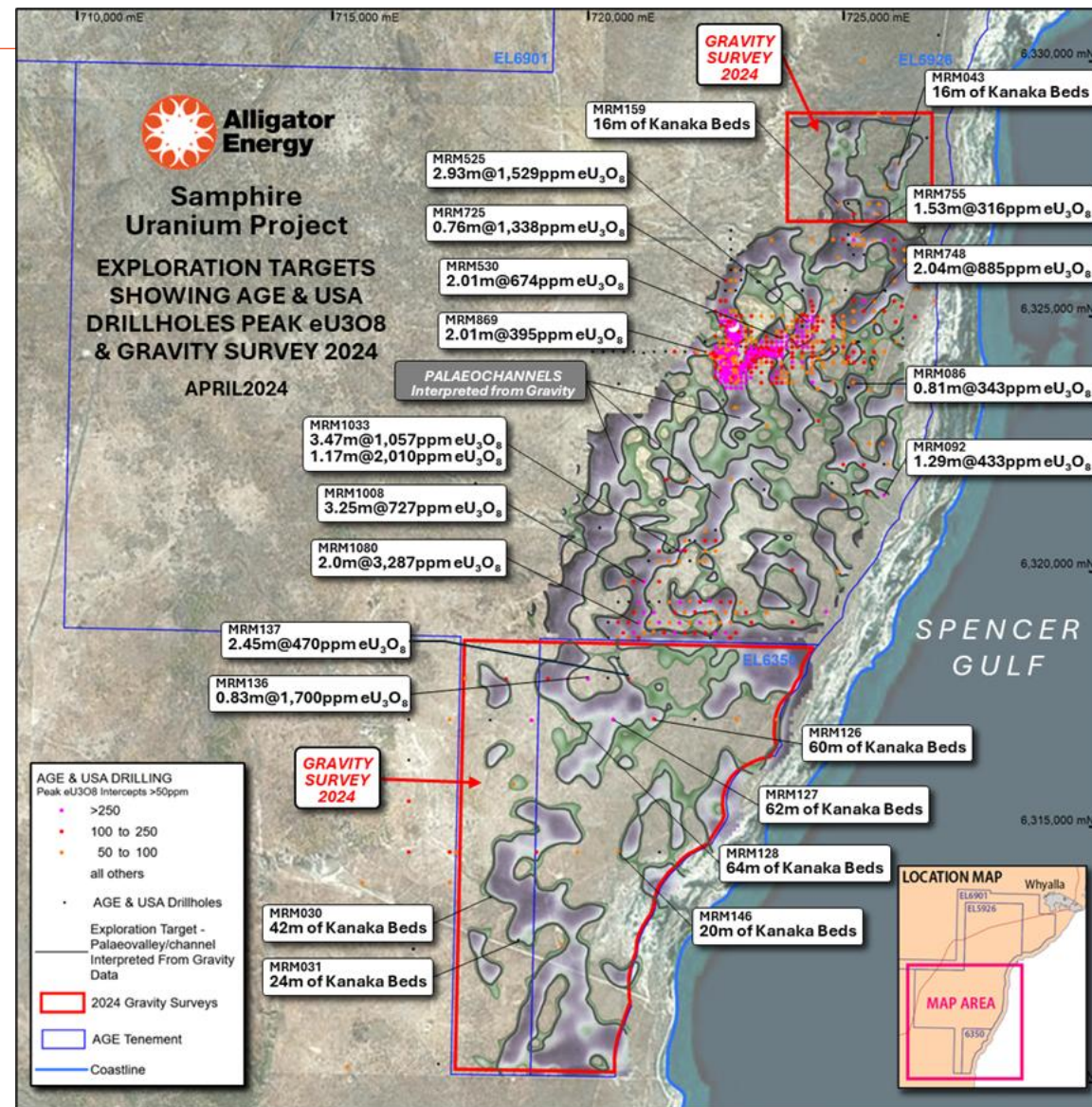


Further Extensions outside the Exploration Target Range Envelope

Ground Gravity Survey- April 2024

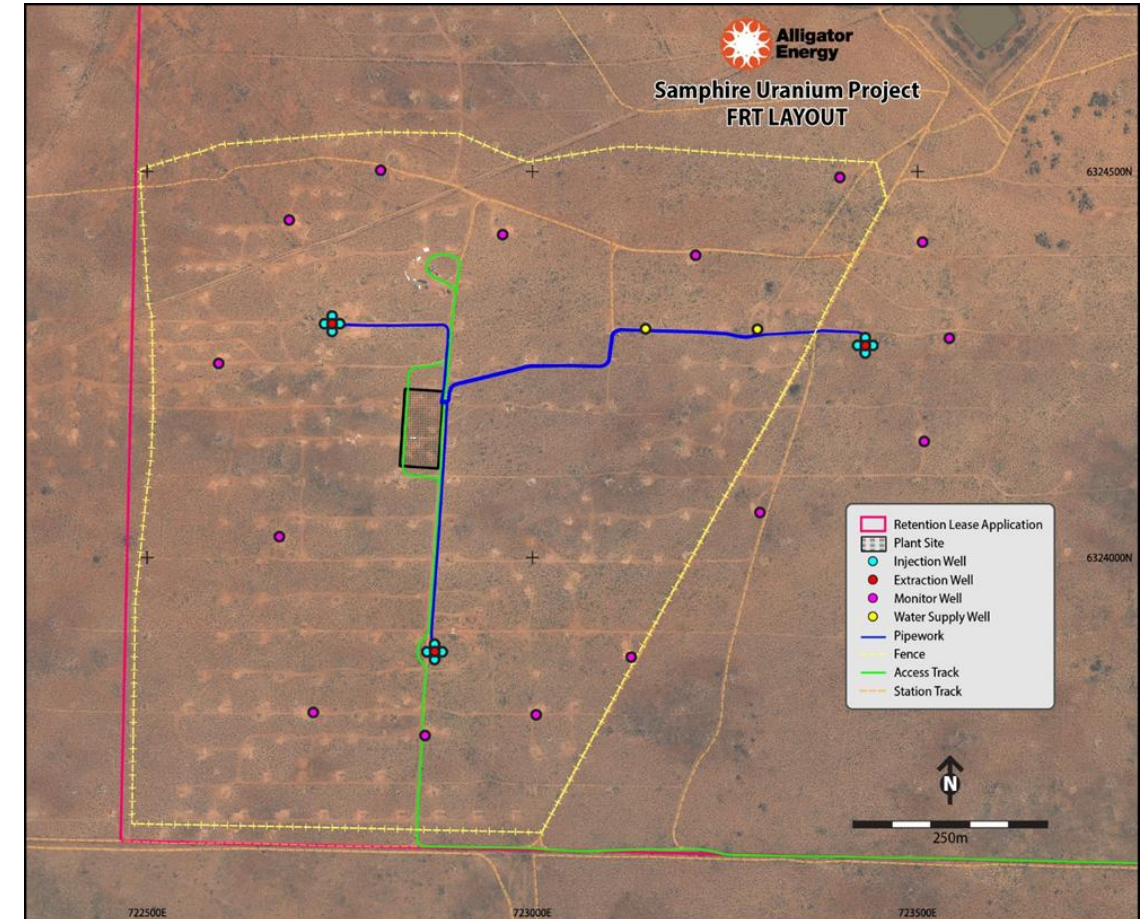
- Exploration target range – additional 14 to 75 Mlbs
- Ground gravity data shows outstanding continuity of the Samphire palaeochannel system by 34 lineal km's.
- 50% increase to the existing palaeochannel strike length to ~over 90kms.
- Historical drillholes confirm that extensions contain the same thick sequences of Kanaka Bed sands which host the Blackbush Mineral Resource .
- Multiple historical drillhole intersections (above 250ppm eU3O8 cutoff) confirm that uranium is ubiquitous throughout this system.
- 72% (over 70km) of the prospective areas of the entire Samphire palaeochannel system remain completely untested by drilling.
- Significant potential for new discoveries and resource growth in the Project area.

Refer ASX Announcements 7 December 2023 and 2 May 2024



Samphire Uranium Project – Field Recovery Trial (FRT)

- Field Recovery Trial (FRT) construction targeted for and Q2 2025, pending PEPR (operating plan) regulatory approval. Plant fully fabricated and delivered to AGE’s Whyalla yard.
- FRT operation for 3-4 months and consists of three producing well patterns and a containerised pilot plant.
- FRT is designed to confirm key operating parameters and marks an important step toward development.
- Parameters to be assessed include in-situ chemistry, hydrogeology, uranium recovery, reagent usage, and other environmental and economic factors.
- Data and learnings further de-risk the Project and provides the necessary inputs to a full feasibility study and Mining Lease Application during 2025.
- EoI’s to select engineering firms for feasibility study



Samphire Uranium Project – Field Recovery Trial Plant

- Fabrication of the containerised FRT processing plant completed - delivered to AGE's Whyalla yard in July 2024.
- Expressions of Interest to five Whyalla based companies for onsite civils and pilot plant construction evaluated. Preferred company to be announced in coming weeks.
- Plant control system being set up and tested. Commissioning and operating plans under development for initiation.
- Post-FRT and subject to any further testing, well infrastructure and plant to be removed, and area rehabilitated – pilot plant available for future satellite field testing.
- Samples of final clean eluate solution containing extracted uranium oxide to be further processed into U_3O_8 concentrate offsite for Converter quality samples.

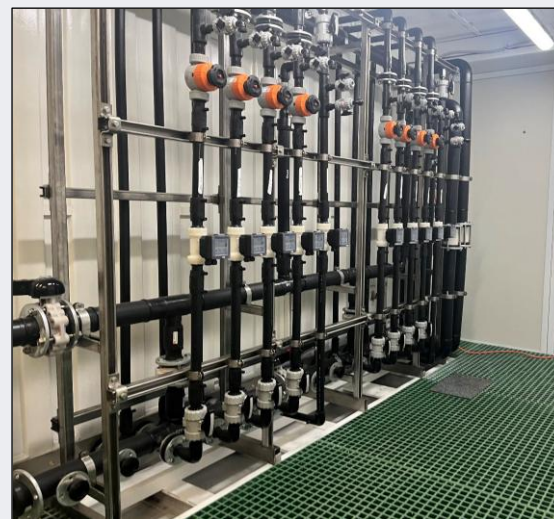
Pilot plant layout



Ion Exchange Module



Wellhouse Module (pipe room)



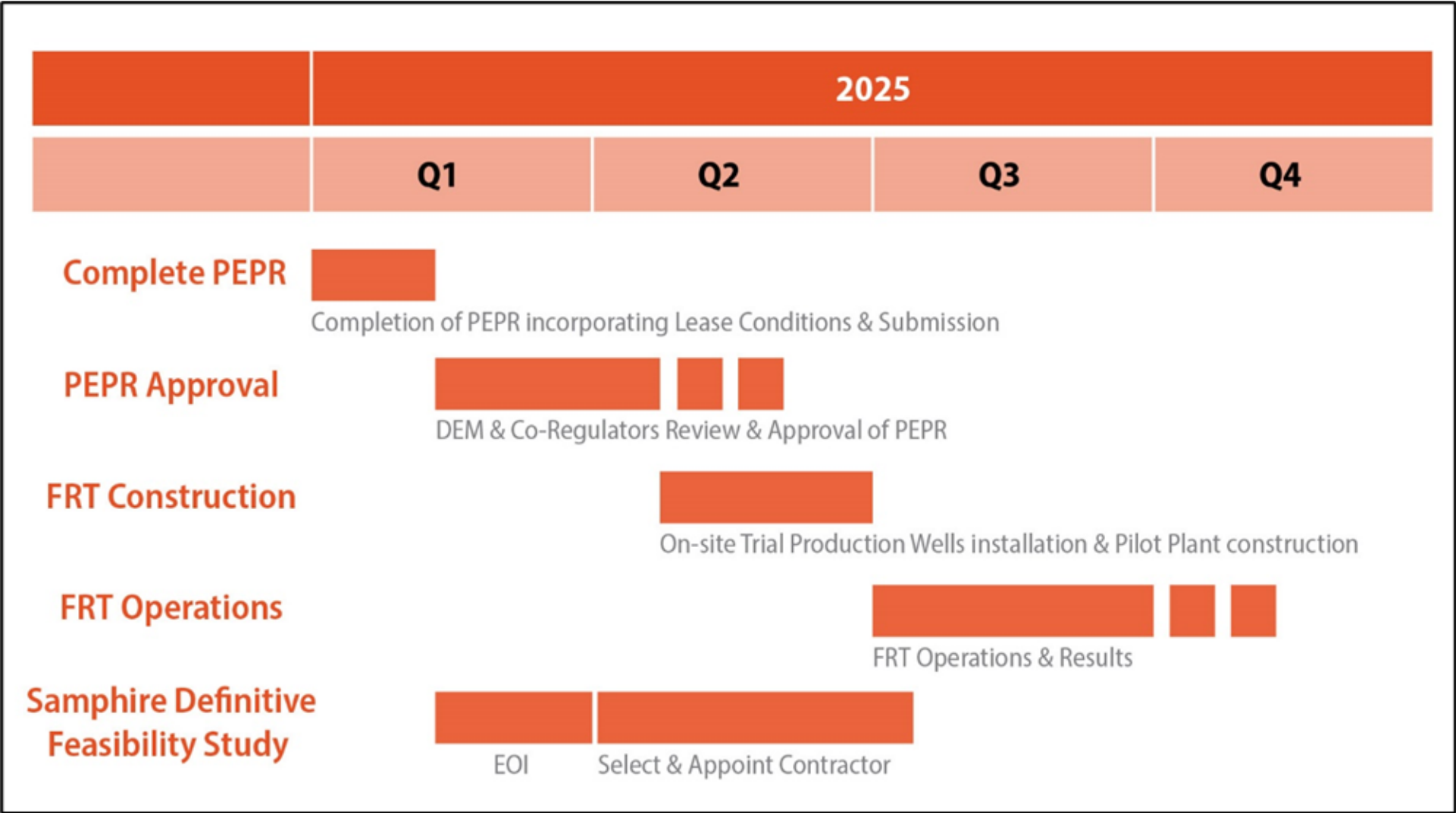
Delivered to site



2025 Plans and Targets

- **Jan – Retention Lease approval with assigned conditions for Field Recovery Trial (FRT)**
- **Feb – Submission of Program for Environment Performance and Rehabilitation (PEPR) – FRT operating plan**
- **Feb – Start of second exploration program on Big Lake Uranium discovery**
- **Feb – Alligator Rivers data review and workshop on next steps and targets**
- **Mar – Updated uranium resource for Blackbush Deposit, Samphire project**
- **May / Jun – Anticipated approval of PEPR – Commencement of trial production well drilling for FRT**
- **Jun / Jul – On-site construction of Samphire FRT pilot plant – civils, plant, infrastructure**
- **1H – Expression of Interest to engineering groups for Samphire Feasibility to commence Q3**
- **Jul to Oct – Operation of Field Recovery Trial – incl RO plant operation**
- **Q3 – Initial regulatory discussion around Scoping for future full mine approvals**
- **2H – Commence Plumbush satellite deposit resource drilling (subject to successful pastoral access agreement and cultural heritage survey)**
- **Q3 – potential next BLU drilling program subject to results**

2025 Plans and Targets



Exploration projects



NT, AUSTRALIA

**Alligator Rivers
(ARUP)**
High Grade U

SA, AUSTRALIA

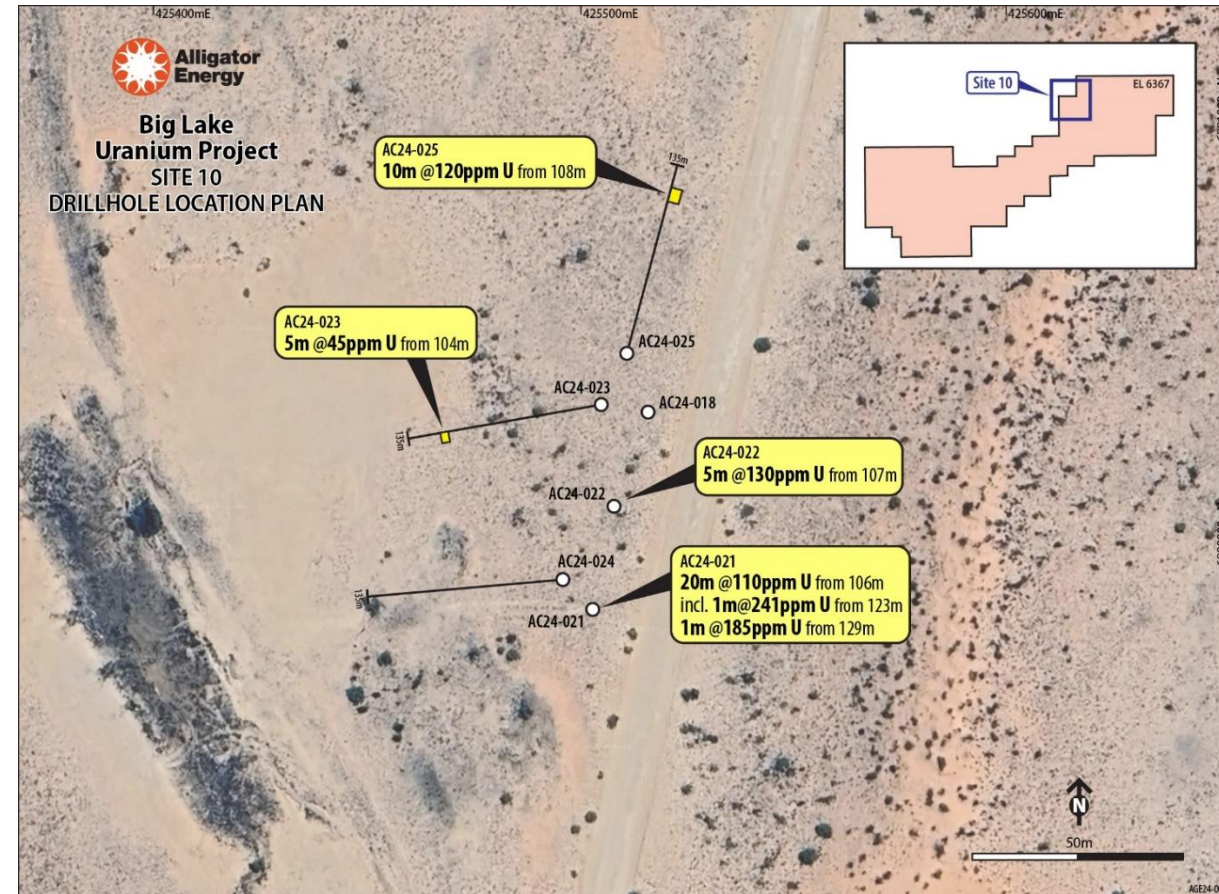
**Big Lake
(Cooper Basin)**
ISR style U

SA, AUSTRALIA

Investment in
EnviroCopper Ltd
Copper ISR

Big Lake Uranium - Inaugural Drilling Program Discovery Success

- Inaugural drilling program intersected significant thicknesses of anomalous uranium mineralisation within interbedded palaeochannel sand units in the Namba Formation.
- Discovery is first proof of concept that significant uranium is present within Lake Eyre basin sediments above the hydrocarbon-rich Cooper Basin within potentially ISR amenable host and depths.
- Laboratory chemical assay results validate the in-field XRF measurements for contained uranium. These include:
 - AC24-021 20m @ 110 ppm U from 106 m
 - AC24-022 35 m @ 117 ppm U from 93 m
 - AC24-023 5 m @ 47 ppm U from 104 m
 - AC24-025 10 m @ 138 ppm U from 108 m
- The indicative grade-thickness of two intersections is at or near the economic cut off used at the Company's Samphire ISR uranium project near Whyalla, SA.
- Cultural heritage clearance complete for expanded drilling program in early 2025 – to include rotary mud drilling allowing detailed down-hole logging.



Refer ASX releases 13 August 2024 and 23 October 2024

Investment into EnviroCopper Ltd ISR copper, SA

- Alligator expanded energy minerals interests with 15.6% investment interest in private group, EnviroCopper (ECL).
- This investment and resultant collaboration is extremely complimentary to our existing and substantial in-house ISR expertise.
- Provides exposure to ISR copper project portfolio (over 200kt Cu resource) and experienced ISR and research team.
- Advancing ISR trials at Kapunda copper project - similar plans for Alford West copper project. BHP funding field trials at Kapunda for IP access.
- ISR successfully used to extract copper in projects in Australia and the US - offers distinct advantages and environmental benefits.
- ECL has now undertaken successful push-pull lixiviant trial at Kapunda to extract copper – awaiting approval for SELT trial within ring of holes circulating lixiviant for copper extraction.
- Significant in-house Cu ISR modelling expertise for shallow fractured rock aquifer hosted oxide copper deposits.



ASX:AGE



**Alligator
Energy**

Greg Hall *CEO*

+61 (0) 7 3839 3904

gh@alligatorenergy.com.au

www.alligatorenergy.com.au