ASX:AGE

Advancing Samphire into Trial Production

Alligator Energy

May 2024

Disclaimer

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

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.

Competent Person's Statement – Nickel Cobalt exploration

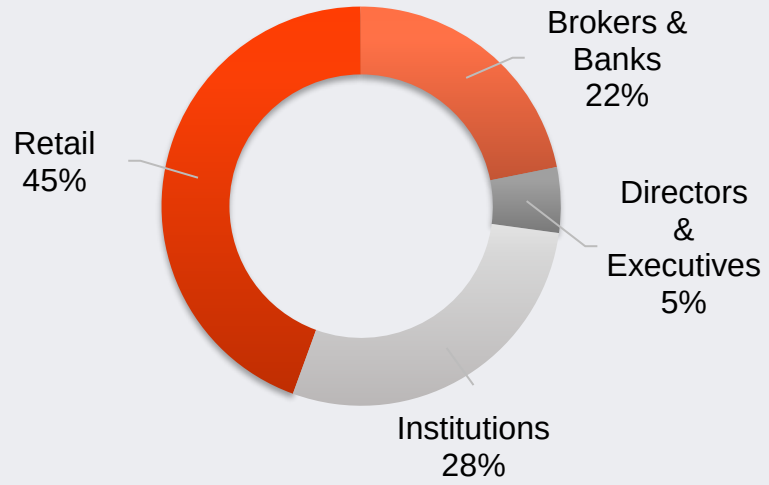
Information in this report is based on current and historic Exploration Results compiled by Mr Geoffrey Chapman who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Chapman is a Consultant Geologist with Alligator Energy Limited and has sufficient experience which is relevant to 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.

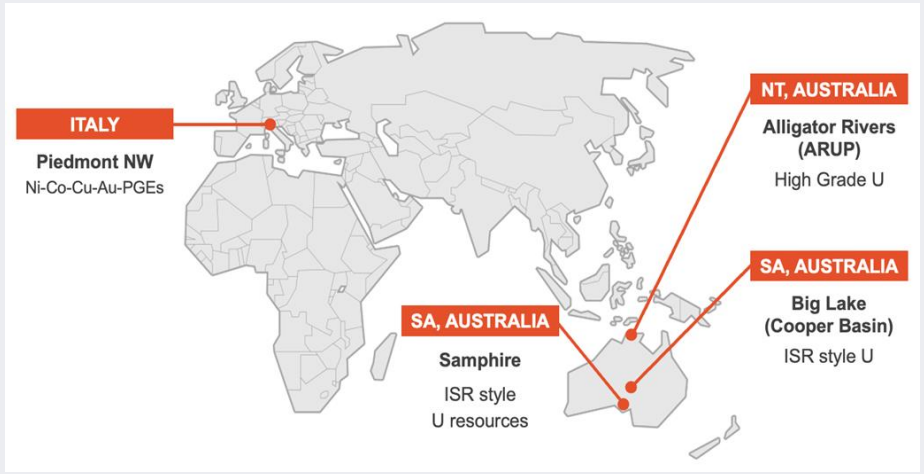
Company Snapshot

Capital Structure (as at 30 April 2024)

Share Price	$0.06
Ordinary Shares	3,862.3 M
Perf Shares, Listed & Unlisted Options	464.4 M
Cash as at 31 March 2024	$ 32.7 M
Market Cap	$231.7 M

Top 50 Shareholders





Alligator Energy

Board & Management

Paul Dickson | Non-Executive Chairman

Paul is a finance and corporate advisory professional with more than 30 years' experience in the finance services industry. He was a Founding Director at Paradigm Capital, a boutique corporate advisory firm specialising in junior and mid-tier ASX listed resources companies, and a Director of Proserpine Capital a private equity firm for circa 4 years. Paul has been an AGE Board member since inception and Chairman for 3 years.

Gregory Hall | CEO & Managing Director

Greg is an experienced mining engineer and CEO with 35+ years' experience in uranium and other mine management. He previously held roles at WMC Olympic Dam & nickel mines, LKAB Iron Ore (Sweden), ERA Ranger & Jabiluka Uranium and international commodities marketing with Rio Tinto (ERA) Uranium, and Bauxite & Alumina groups. Greg was also founding CEO of Toro Energy Ltd.

Peter McIntyre | Non-Executive Director

Peter is a civil engineer and experienced CEO. He previously held GM roles with WMC Ltd, including development of major mining projects. Peter was the founding MD of Extract Resources during the discovery and pre-feasibility of Husab Uranium mine in Namibia, sold for US$2.2 billion.

Fiona Nicholls | Non-Executive Director

Fiona has 30 years of experience working across a range of business functions including strategy, planning, ESG and operations, multi-country project development and approvals and due diligence processes. Fiona was previously on the Board of Rössing Uranium and alternate director for ERA uranium.

Callum McIntyre | Alternate Director

Callum has extensive experience in the finance and technology industries, both in Australia and overseas. He is currently Director Business and Investment at Labonne Enterprises, a private investment company. He is also a Director of ReCircle, a private Company researching the recovery and reuse of soft plastics. He holds a BSc from the University of WA, and Graduate Diploma of Applied Finance.

Mike Meintjes | CFO & Company Secretary

Chartered Accountant/CFO/Company Secretary. Over 30 years professional services principally with a Big Four accounting firm and recently in part-time contracting and consulting roles. Extensive exposure to mining, oil & gas sectors in WA, QLD and South Africa. CFO and Co Sec for AGE for 11 years

Dr Andrea Marsland-Smith | COO

Andrea was previously at Heathgate Resources with roles over 15 years covering technical and field positions in Geology, Head of Geology, Head of Regulatory & Compliance, Head of Operations and Head of Government Relations and Indigenous Affairs. She holds a PhD in Economic Geology and was the recipient of Exceptional Women in Resources in 2016.

Mike Barlow | Exploration Manager

Mike has over 30 years in mineral exploration leading greenfields and brownfields programs with BHP, Rio Tinto, Comalco and most recently, with Geoscience Australia. He has served in management and technical roles for resource identification and development in copper, lead and silver, along with oil and gas, and laterite deposits. Mike is also a member of ASEG and AusIMM.

Fundamentals point to stronger spot and term prices

Supply

- Structural supply deficit forecast through to at least 2028
- Fragile supply picture, with elevated geopolitical risks
- Heightened supply risk from major producers, with Kazatomprom guiding to restricted production due to acid shortages and delays to mine construction.
- Kazakhstan produces 44% of world's uranium, and this is shipped via Russia.
- US close to imposing sanctions on Russia
- Structural deficit even after prices have tripled

Demand

- At COP28, 22 countries agreed to triple nuclear power by 2050
- 2023 LT uranium contracts of 160 Mlbs highest since 2012
- SPUT purchased >60 Mlbs of uranium and steadily acquiring more
- Amazon's acquisition of nuclear-powered data centre at Talen illustrative of the rising demand for reliable 24/7 power for this industry.
- Potential for SMRs to add to future demand

Spot uranium in a multi-year bull market

Source: Trading Economics

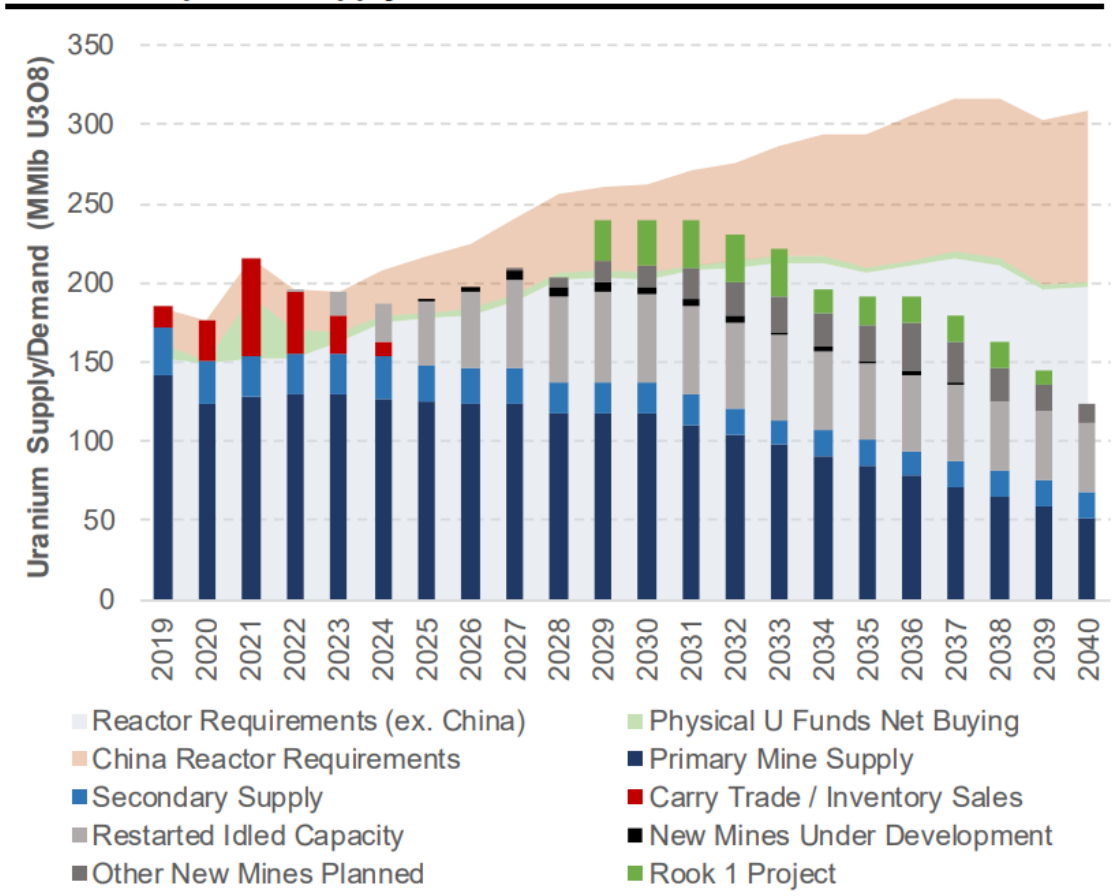
Prices

- Spot price doubled in ~12 months from US$50 / lb to recent peak of US$106 / lb.
- Long term price now estimated at
  - US$80 / lb (Trade Tech)
  - US$75 / lb (UxC)

Alligator Energy

Uranium and Nuclear Fuel - Commodity Price Drivers

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.
- New mines are and will take longer to market due to approvals, development and design skills needed, financing and politics.
- Utility fuel buyers running inventories very low to avoid / delay coming to market while prices high.
- Due to relatively low impact of U prices on nuclear costs, largely inelastic demand despite rising prices.
- Existing producers will find ways to extend mine life, however will also take time.
- Faster to build a nuclear plant in China and India than it is to start a uranium mine in Australia.

Samphire Uranium Project, South Australia

Alligator Energy

Samphire Highlights

20kms from Whyalla, SA

Excellent regional infrastructure and skilled labour-force

JORC compliant resource

17.5 Mlbs uranium resource with significant scope for further growth

Regional exploration opportunities

Exploration Target estimates additional 14 - 75 Mlbs

Robust Scoping Study- 1.2 Mlb / annum prod.

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

Pilot plant planned

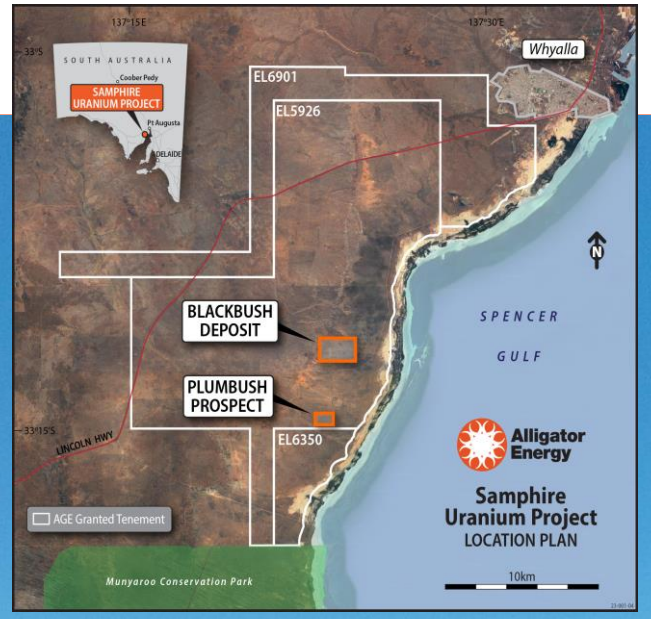
Construction in Q3 subject to approvals

ESG

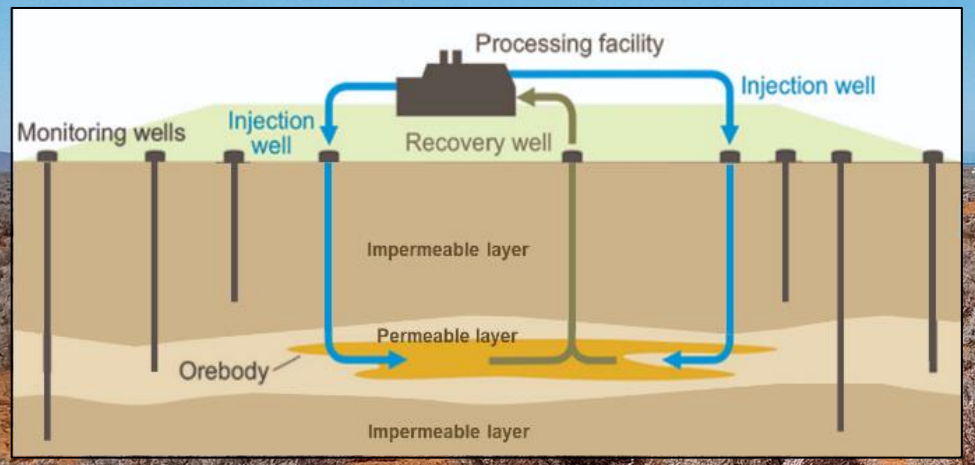
Strong ESG credentials, with environmental commendation awarded by SA government

Samphire Uranium project: A highly competitive ISR project

- **Initial capital cost estimate of US$131 million is low**, 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 (released Dec 23) estimating an additional 14 - 75 Mlbs. Multi-year resource extension and step-out drilling to increase mine life and production rate.
- Field Recovery Trial (**derisking underway**) on receipt of all regulatory approvals (approx. early Q3), to de-risk project and confirm parameters to be used in a full feasibility study during 2025



Conceptual Model of ISR



Samphire Uranium Project – Dec 2023 Scoping Study† : Key Metrics

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

NPV_8*
(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

NPV_8*
(post-tax, real, ungeared)

US$34.06/lb

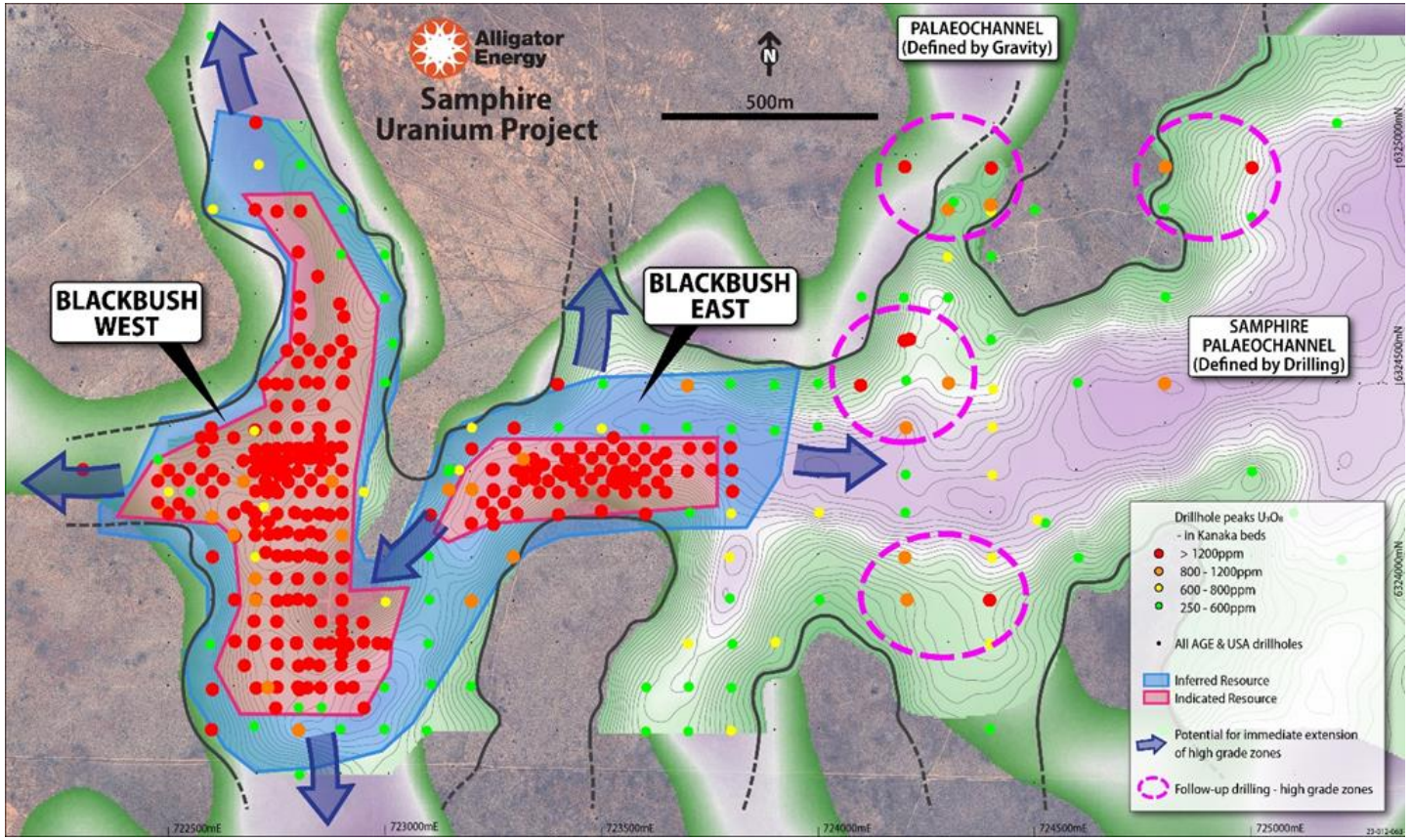
AISC
(A$48.96/lb)

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 JORC Resource

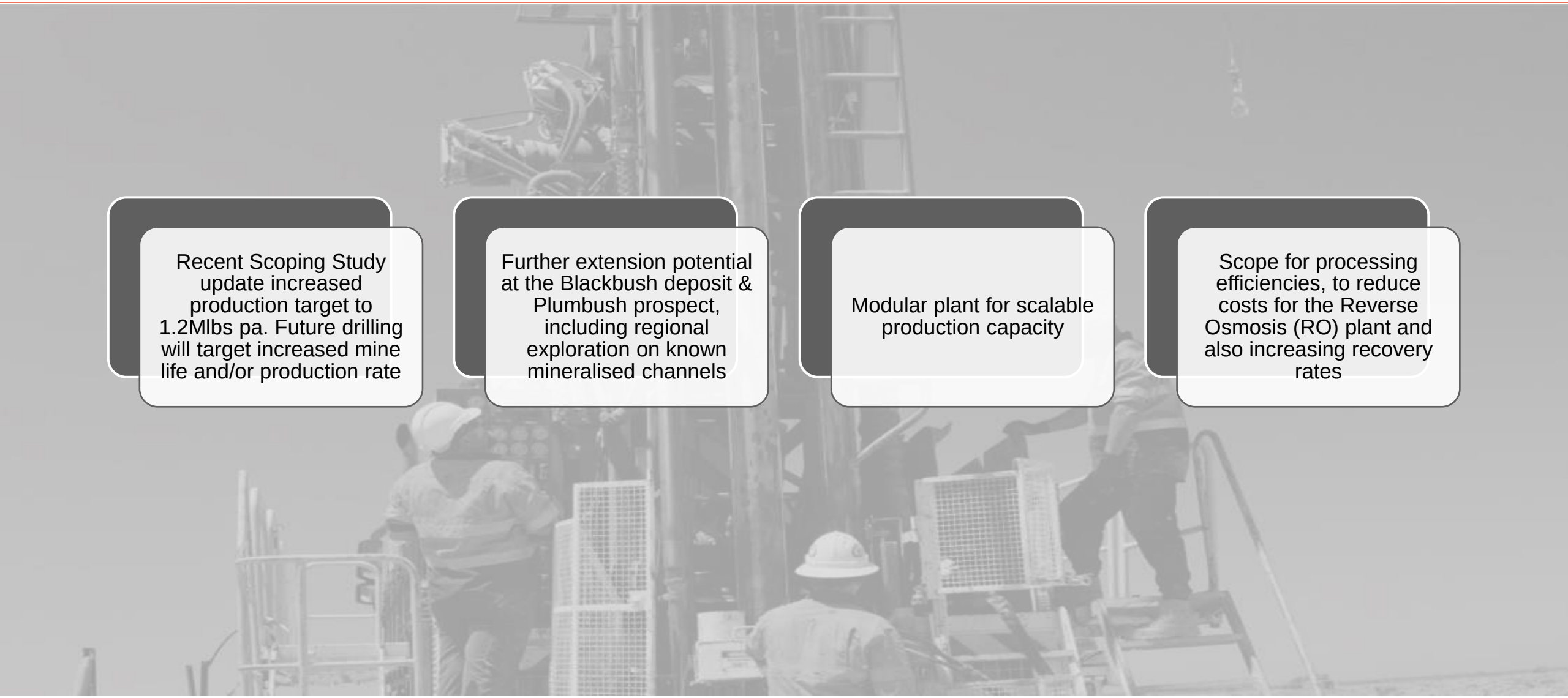


JORC Category	Mt	Grade (U_3O_8 ppm)	U_3O_8 Metal (KTonnes)	U_3O_8 Metal (Mlbs)
Indicated	7.8	754	5.9	12.9
Inferred	4.6	447	2.1	4.6
Total	**12.4**	**640**	**7.9**	**17.5**

Ref: ASX Release 7 December 2023

Alligator Energy

Samphire Uranium Project - Scope to Scale & Optimise



Recent Scoping Study update increased production target to 1.2Mlbs pa. Future drilling will target increased mine life and/or production rate

Further extension potential at the Blackbush deposit & Plumbush prospect, including regional exploration on known mineralised channels

Modular plant for scalable production capacity

Scope for processing efficiencies, to reduce costs for the Reverse Osmosis (RO) plant and also increasing recovery rates

Samphire Uranium Project – Resource Growth Potential

Blackbush resource growth potential

- Coherent multi-level medium to high-grade zones with current >2,700m cumulative strike, with widths of 300-450m.

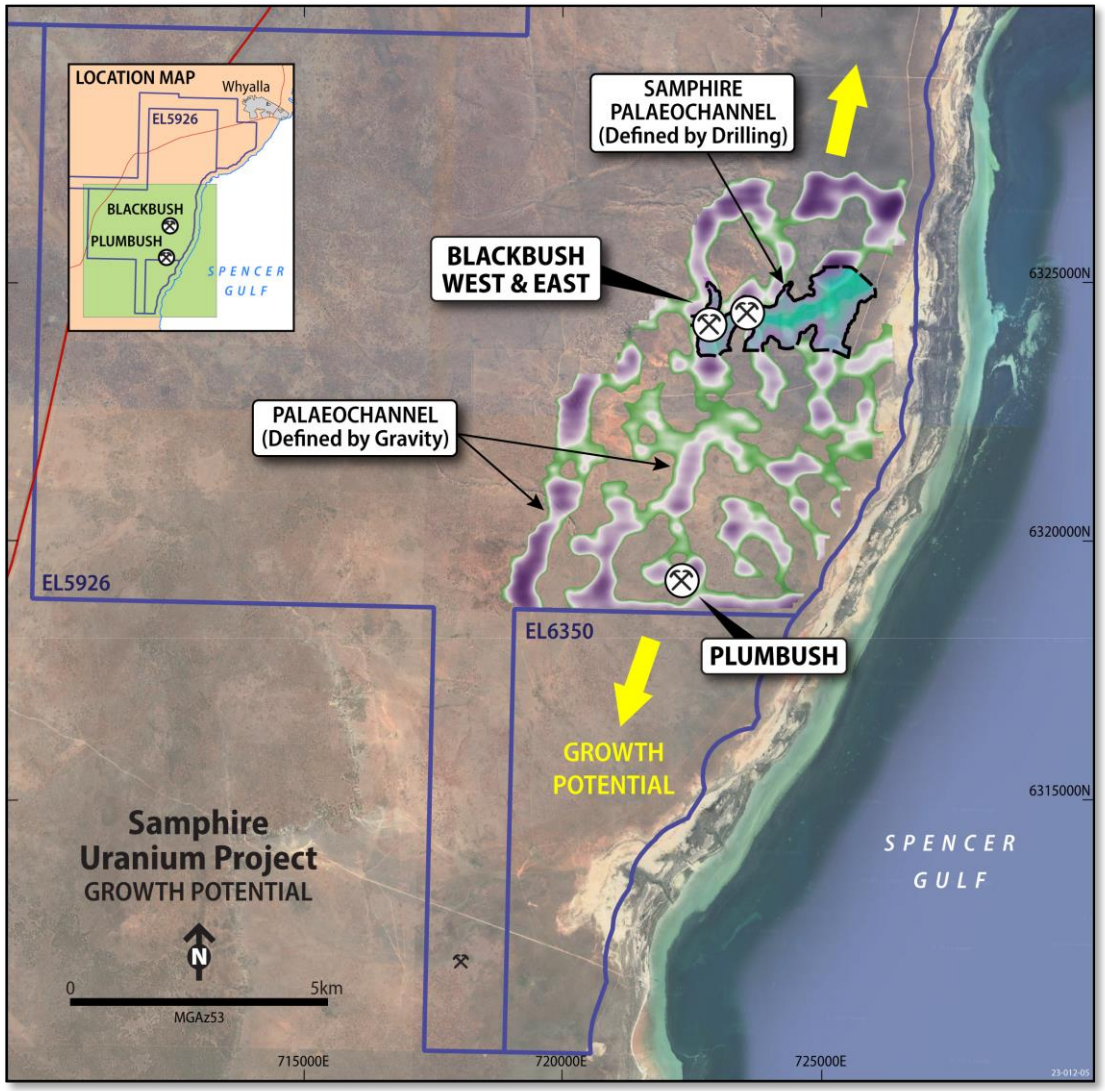
Creating value through the drill bit

- Multi-year step-out drilling program planned
- Blackbush extension drilling underway for all of 2024

District-scale resource growth potential

- Balckbush resource growth
- Plumbush Prospect and extensions not adequately tested
- High-resolution ground gravity shows significant palaeochannel extensions north and south of Blackbush. 64kms of known palaeochannels, with 58% unexplored.
- Potential for additional satellite deposits based on historical mineralised intersections.

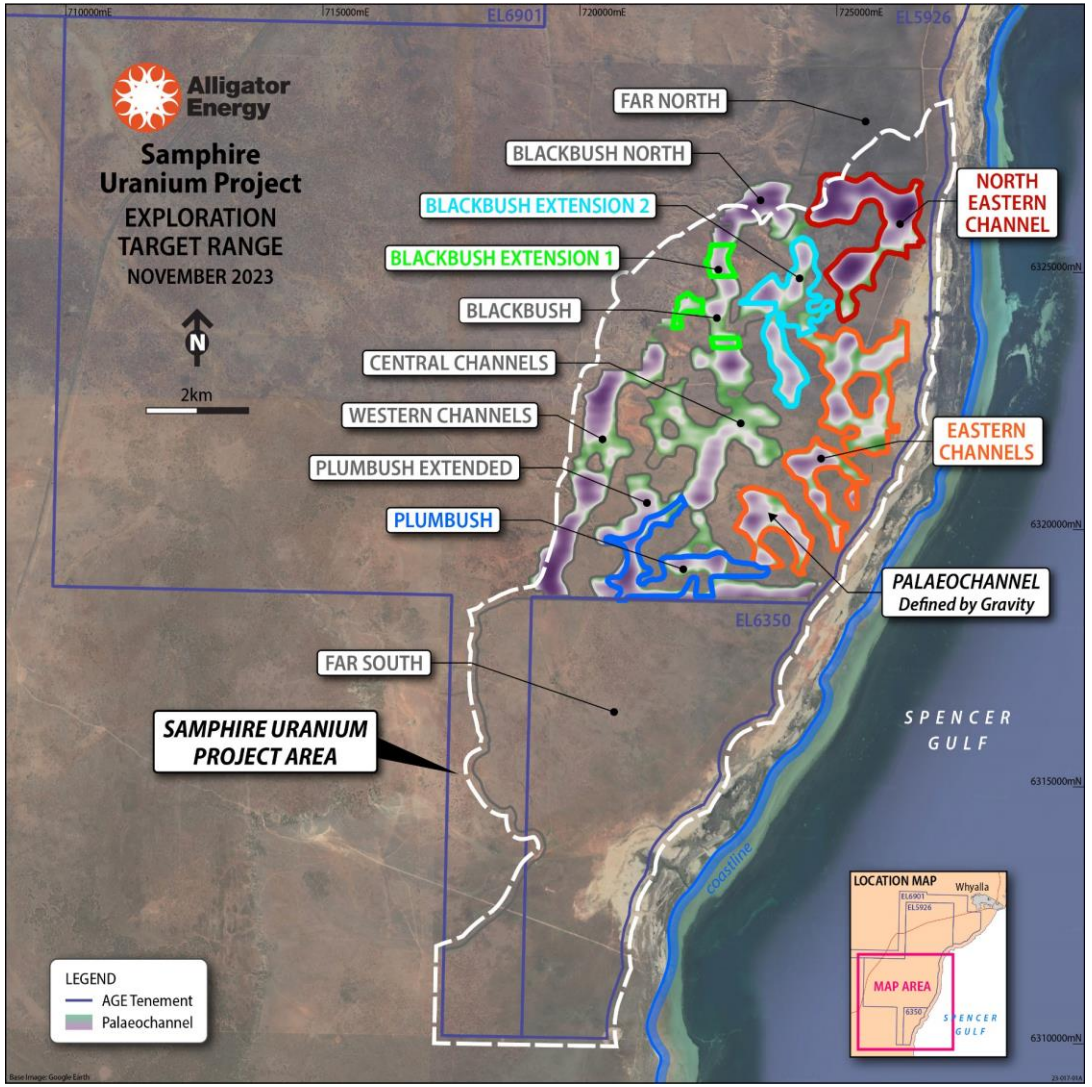
Regional ground gravity showing potential palaeochannel extensions



Alligator Energy

Samphire Uranium Project – Exploration Target Range - up to 75 Mlb

Target Area	Estimated Tonnage (Mt)		Estimated Grade (ppm U_3O_8)			Estimated Exploration Target Range (Mlb)	
	Min	Max	Min	Max	Average	Min	Max
Blackbush Extension 1	0.82	1.69	354	922	543	0.64	3.43
Blackbush Extension 2	2.09	4.94	382	697	487	1.76	7.59
North-eastern Channels	3.18	7.20	353	795	500	2.47	12.62
Eastern Channels	6.77	12.62	332	426	363	4.95	11.85
Plumbush	3.11	10.63	530	1676	912	3.63	39.28
Blackbush North	Not included in Target Range						
Central Channels	Not included in Target Range						
Western Channels	Not included in Target Range						
Plumbush Extended	Not included in Target Range						
Far North	Not included in Target Range						
Far South	Not included in Target Range						
					TOTAL	14	75

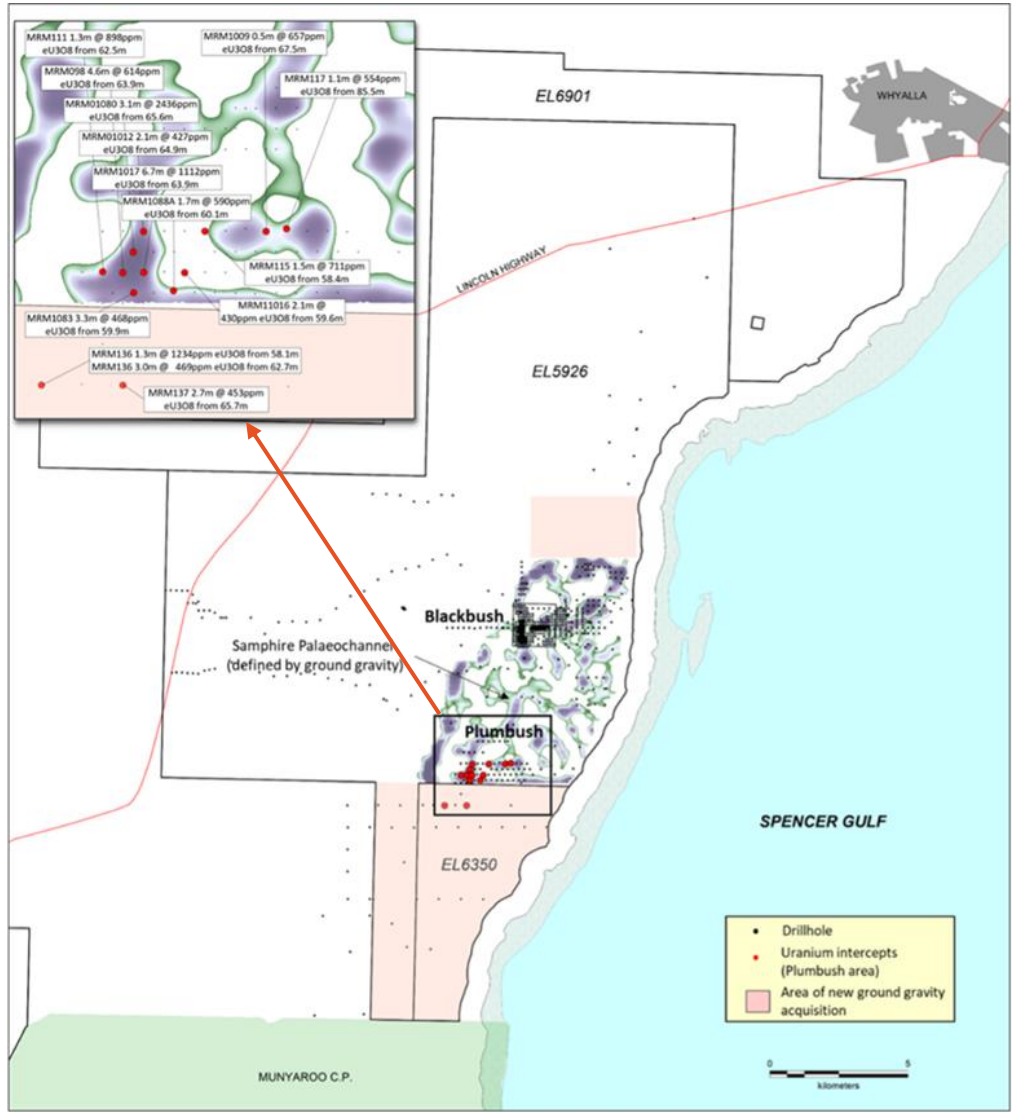


Next Steps:

- Current exploration drilling within Blackbush Extension 1 & 2 areas.
- Multi-year plan to explore palaeochannels surrounding Blackbush and commence greenfield exploration between the Blackbush & Plumbush target areas.
- Identify channel extensions within the Far North and South target areas from ground gravity data recently acquired in these areas.

Further Extensions outside the Exploration Target Range Envelope

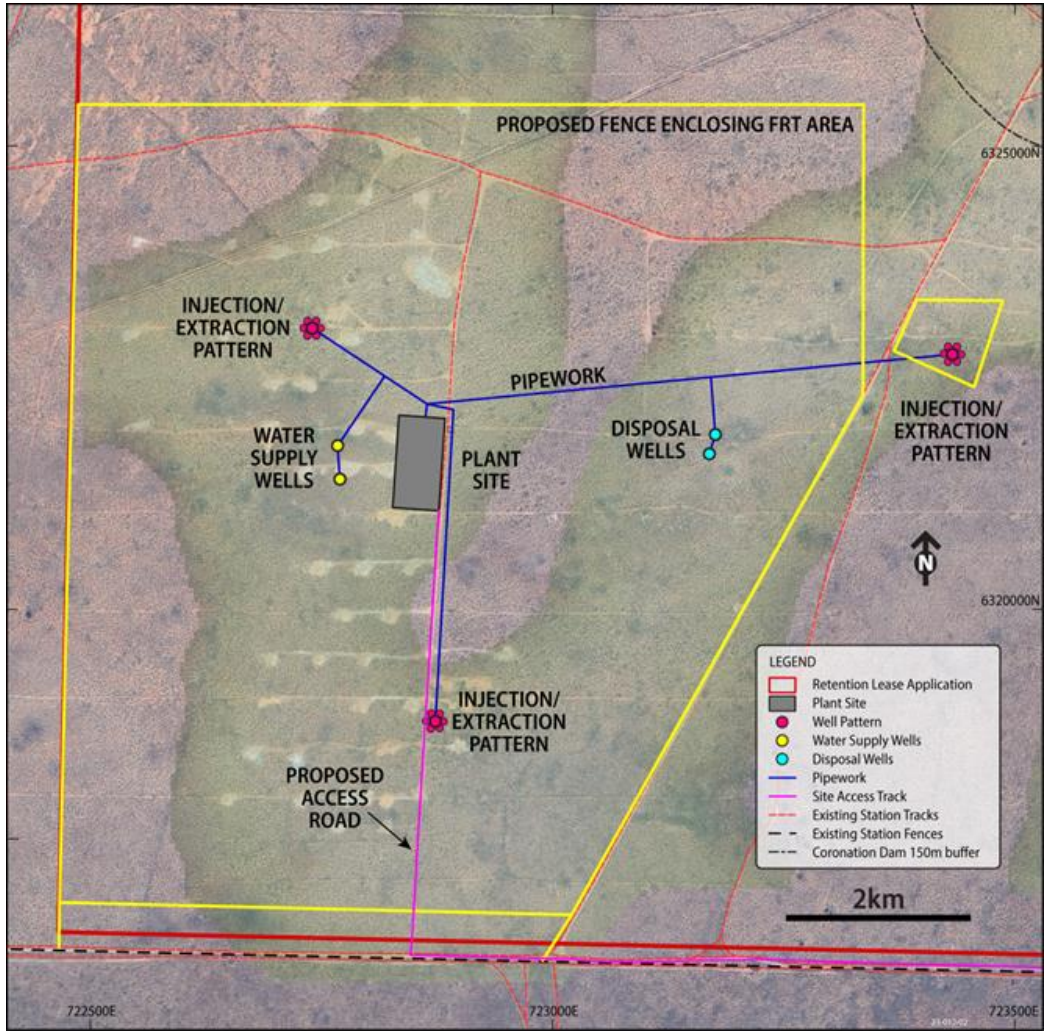
- Recent acquisition of additional ground gravity identifying further exploration targets outside of known palaeochannel system.
- Data being evaluated and checked - to be released shortly.
- Additional palaeochannel extensions likely to the south for up to 5 to 7 kms



Alligator Energy

Samphire Uranium Project – Field Recovery Trial (FRT)

- Field Recovery Trial (FRT) construction targeted for Q3, pending regulatory approvals.
- In operation for 3-4 months and consists of three producing well patterns and a containerised pilot plant.
- FRT is designed to confirm key 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.



Alligator Energy

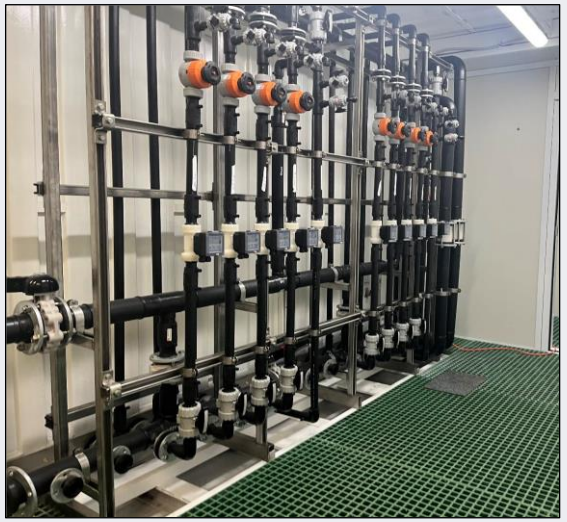
Samphire Uranium Project – Field Recovery Trial Plant

- Fabrication of the containerised FRT processing plant in Adelaide essentially complete and undergoing Factory Acceptance Testing.
- Post completion the plant will be transported to Whyalla ahead of securing the necessary approvals to conduct the trial.
- Scope of work for on-site assembly being prepared for quotation from Whyalla-based construction contractors/businesses.
- Commissioning and operating plans are under development for initiation.
- Post-FRT and subject to further testing, well infrastructure and plant removed, and area rehabilitated – pilot plant available for future satellite field testing.

Pilot plant layout

Ion Exchange Module

Wellhouse Module (pipe room)



Alligator Energy

Exploration projects

NT, AUSTRALIA

Alligator Rivers (ARUP)
High Grade U

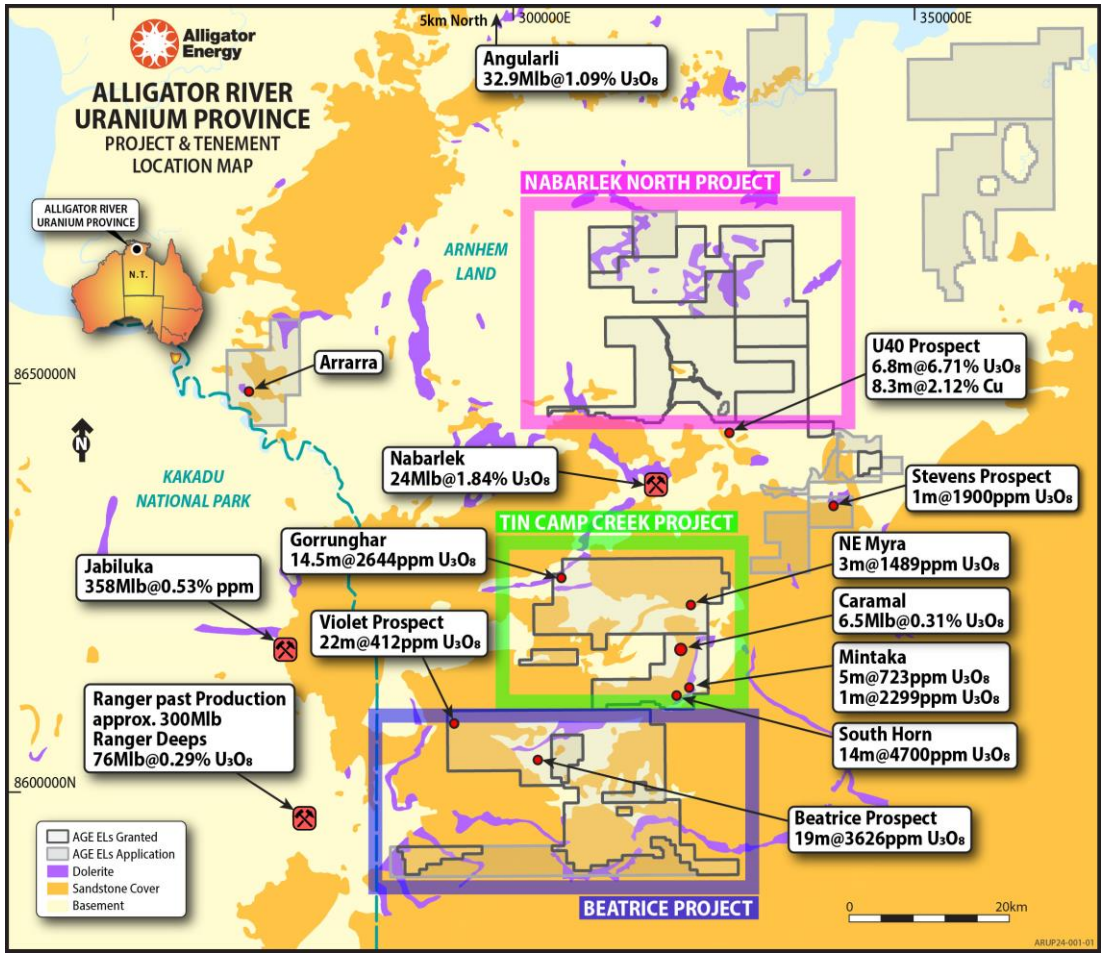
SA, AUSTRALIA

Big Lake (Cooper Basin)
ISR style U

Alligator Energy

Alligator Rivers Uranium Province, NT

- Province is host to multiple high-grade deposits including Ranger mine and Jabiluka deposit (358 Mlbs @ 0.53% U_30_8).
- Alligator has the second largest granted licence area, comprising three substantial projects in Australia's premier **high-grade** uranium province;
  - **Nabarlek North** (493 km^2). Immediately north east of historic Nabarlek Mine (produced 24 Mlbs @ 1.84% U_30_8) within thin 2 – 20 m cover. Extensive exploration program underway – including potential U40 Prospect* extensions;
  - **Tin Camp Creek** (291 km^2). Multiple uranium targets in well-defined regional uranium-bearing zone, including the Caramal Resource of 6.5 Mlbs @ 0.31% U_30_8;
  - **Beatrice** (357 km^2). Exploration by Cameco & QML identified several mineralisation leads, including the Beatrice Prospect with an early intercept of 19 m @ 0.36% U_30_8.



** Includes 6.3m at 7.23% U_3O_8 and 8.3m @ 2.12% Cu (Uranium Equities Ltd now DevEx Resources Ltd release – 4 October 2017).*

Alligator Rivers Uranium Province, NT – Nabarlek North

2023 Outcomes at Nabarlek North

- Strategic testing along strike from the U40 Prospect intercepted 3m @ 0.12% U_3O_8*.
- Field season completed with 1,398m of RC drilling, over 320 aircore holes, 100 auger holes,15km^2 gradient-array induced polarisation (IP) and 2 Pole-Dipole IP lines at 25m dipoles for 3.4km.
- 2022 – 2023 programs set the stage for better understanding of the nature and extent of cover, intrusives and host rock.

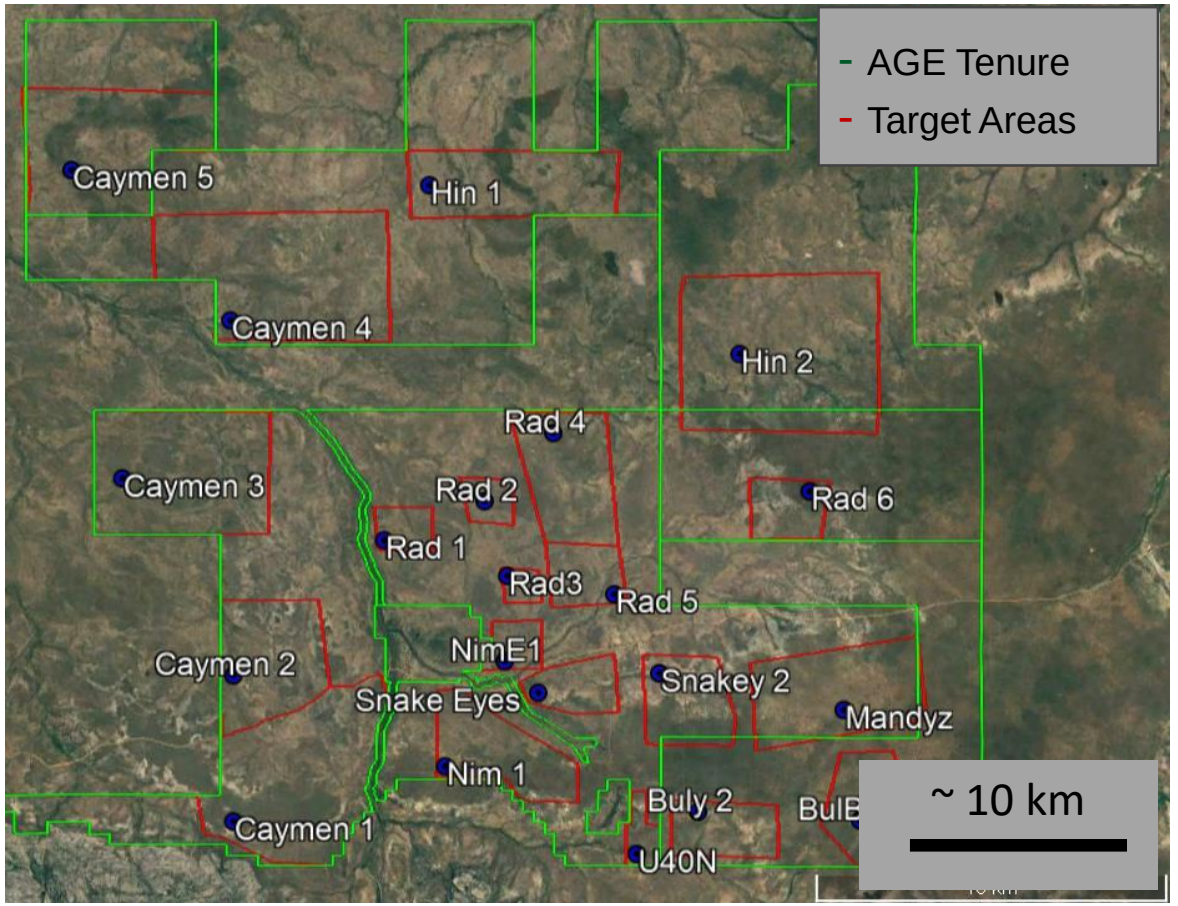
2024 Work Program at Nabarlek North

- 2024 program will be more targeted across the entire tenure, with focus on RC drill-targeting at 10 – 20 specific geology + geophysics + geochemistry features, including additional drill-fences along trend from U40.

2024 Work Program at Tin Camp Creek and Beatrice

- Approvals underway for on-ground activity focused on high priority targets

**See AGE announcement of 19 Dec 23: https://wcsecure.weblink.com.au/pdf/AGE/02755611.pdf*

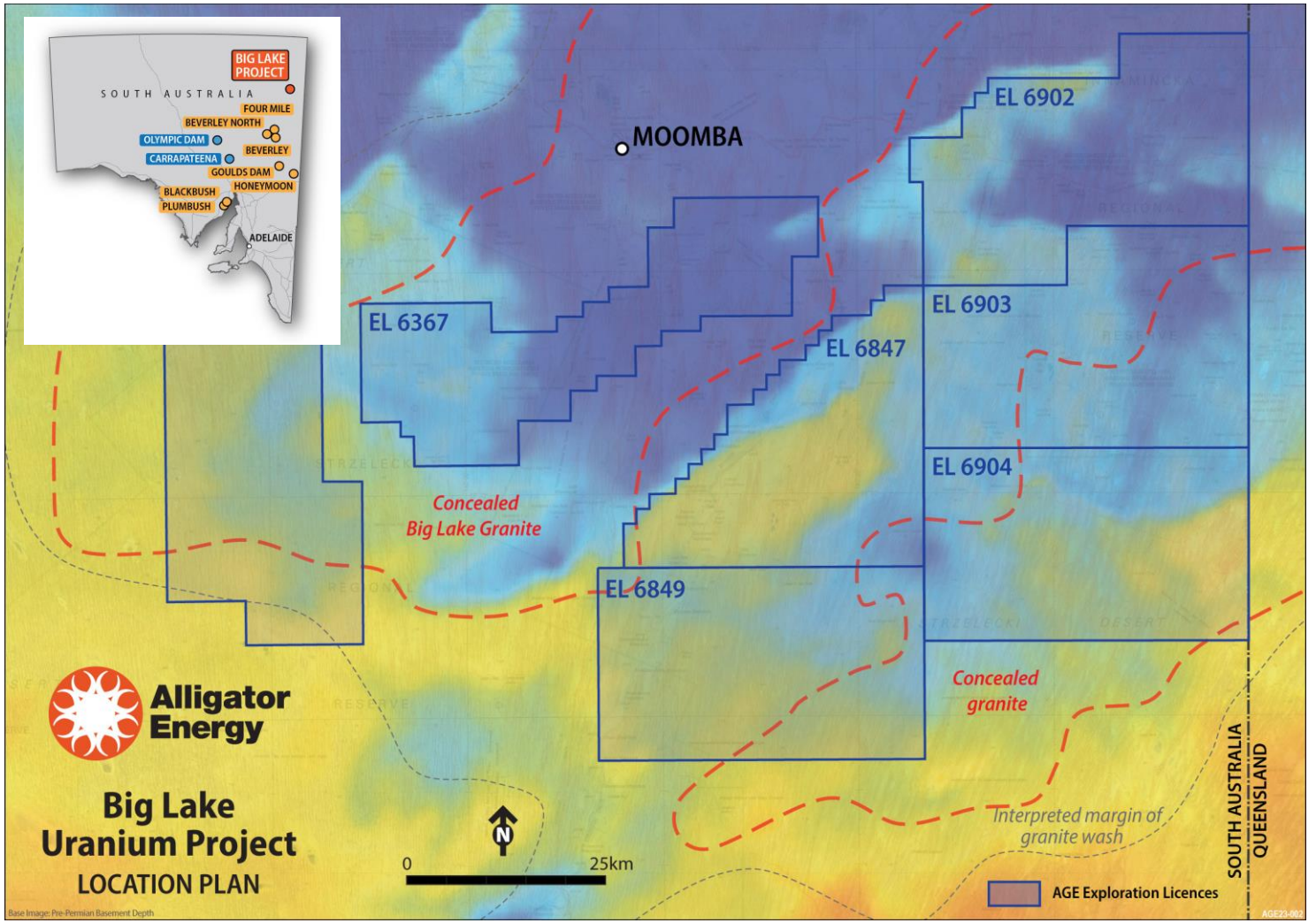


Nabarlek North – 2024 Target Areas, including north extensions to U40 Prospect ('U40N')

Alligator Energy

Big Lake Uranium Project, SA

- Overlies Cooper Basin in NW South Australia – overlying sediments unexplored for uranium despite geological analogies to existing world-class ISR fields in hydrocarbon basins in Kazakhstan, Wyoming and Texas.
- Several potential uranium sources including weathering / leaching of underlying ‘hot’ granite suite or distal migration of uranium bearing fluids toward basin depo-centres.
- EM results and analysis of publicly available 2D and 3D seismic data indicate potential presence of paleochannel systems.
- Initial drill program May 2024 for first stratigraphic testing and confirmation



Depth to basement map across Big Lake tenure (blue – green shows deepening towards centre of Cooper Basin in the NE)

Big Lake Uranium Project, SA: Status of Testing Conceptual Exploration Model

Requirements	AGE interpretation	Status
Source rock	Granite Suite present on edge of Cooper Basin	✓
Permeable sedimentary sequences	Targeting Eyre and Namba Formations	✓
Hydrocarbon reductants (Kaza, Wyoming, Texas)	Cooper Basin - known oil and gas field	✓
Migration of uranium bearing fluids	Seismic interpretation of paleochannels	To be drill-tested May 2024
Presence of uranium observed	TC Development / Oil and Gas Operators	U occurrences - 'sniffs' noted to date

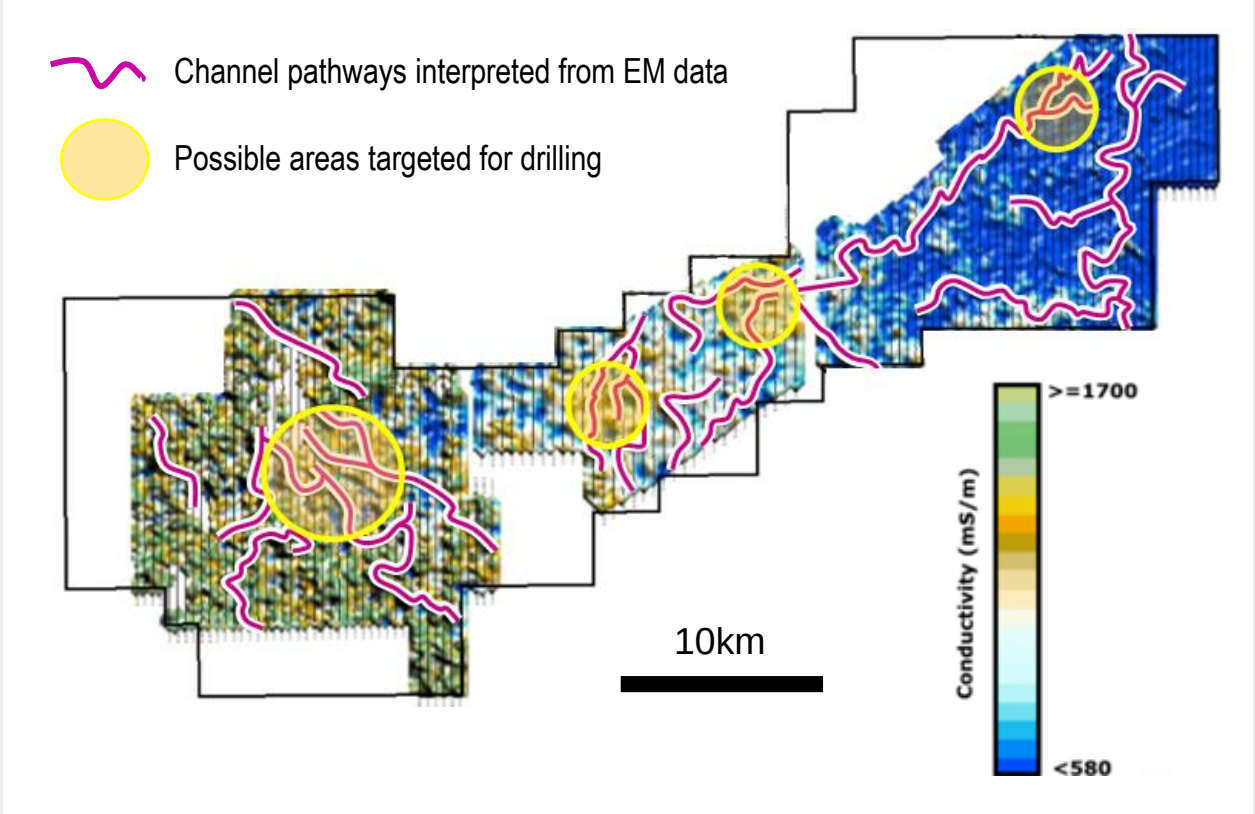
Big Lake Uranium Project, SA

2023 Outcomes

- Interpretation of seismic and other datasets completed, continuing work towards a full 3D basin model.
- Selection of ~20 stratigraphic drill sites to test stratigraphy, paleochannel model and qualities of U-trap rocks.
- Exploration access agreement in place with the Traditional Owners. Clearances for planned 2024 drilling completed.
- Evaluation of potential across holding to host battery metals such as Li in condensates.

2024 Work Program

- Maiden drilling stratigraphic program kicks off in May/June with fences of aircore holes with average depth of 150m.
- Based on the results of the above, 2nd round of clearances in August.
- Proposal for up to 40 holes to start testing specific features and uranium traps in either late H2 of 2024 or early 2025.



One of the target concepts for second round of drilling once key components of the U model confirmed, H1 2024.

Alligator Energy

Investment into EnviroCopper Ltd ISR copper, SA

- Alligator expanded energy minerals interests with $0.9M strategic investment in private group, Envirocopper (ECL), with option up to 50.1%.
- This investment and resultant collaboration is extremely complimentary to our existing and substantial in-house ISR expertise.
- Provides exposure to In-Situ Recovery (‘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 undertaken significant exploration, R&D and approvals for test work into ISR of shallow fractured rock aquifer hosted oxide copper deposits.

2024 News flow

Recent / Imminent Releases

- First round extension drilling at Blackbush (Samphire)
- Ground Gravity Program – extending current paleochannel system

Second Quarter

- Inaugural Big Lake (BLU) Drilling Program
- Samphire Retention Lease Approval
- Second round extension drilling at Blackbush

Third Quarter

- Commence FRT construction (subject to approvals)
- Results of the BLU drilling program and next steps
- Initiation of Nabarlek North 2024 Field Program

Fourth Quarter

- Commencement of FRT field circulation trial
- Nabarlek North drilling results
- Blackbush JORC resource estimate update
- Feasibility scope and early work packages

2025

- Award, commencement and undertaking of Feasibility Study
- Mining lease approval documentation and submission late year
- Uranium marketing plan and potential initial conditional sales offtake agreements

ESG in practice: Working with Stakeholders

- We aim to add value in all of our decision-making for **shareholders**.
- We wish to provide an engaging, challenging, enjoyable and respectful workplace for our **employees**.
- We respect the rights of **landowners** and **communities** and seek to collaborate for our mutual benefit.
- We respect the cultural heritage and connection to country of **Traditional Owners** and wish to create mutually beneficial opportunities.
- We aim for a low impact on the **environment**, through innovation, use of latest technology, and responsible land management techniques.

Our aim is to discover, source and economically extract these needed commodities with an innovative approach, with either zero or minimal impact, and with positive value and experience for our stakeholders and communities.

ESG in Practice

Samphire Project

- Completed remaining historical rehabilitation during project acquisition
- Ongoing drill hole rehab – targeting lifting of bush density to double the existing
- Early and ongoing engagement with pastoralists, Indigenous group, Whyalla community
- Working with pastoralists for weed and pest control, and with rangeland improvement initiatives
- Early initiatives for low impact site facilities, sustainable energy opportunity

Alligator Rivers

- Over 40 indigenous employees on drilling and exploration programs over 10 years
- On country work and support for indigenous ranger groups – even when not exploring
- Nabarlek North agreement – potential for TO groups to become 25% partner
- Drilling at Nabarlek North in 2022/23– Indigenous owned and operated drilling company
- Exploration rehabilitation after each program

Big Lake Uranium

- Full draft agreement with YYTLOAC indigenous group
- Engagement and cultural clearance programs
- Direct indigenous employment from first program in 2024

Samphire Uranium Project: Opportunity for a near carbon-free energy project

- Lower power consumption as ISR method has no rock / material movement, nor crushing / grinding of rock. Renewable power with backup may be adequate?
- Distance to Whyalla may allow all electric vehicles, light trucks, cranes etc to be used?
- Advances in battery on-highway prime movers may support the level of logistics and product transport needed?
- This potential opportunity aligns with SA Government Hydrogen Hub for Whyalla region and extensive potential renewable projects.
- We will be scoping this opportunity in parallel with our feasibility and economic studies.

Alligator Energy

ASX:AGE

Alligator Energy

Greg Hall *CEO*

+61 (0) 7 3839 3904

gh@alligatorenergy.com.au

www.alligatorenergy.com.au