

## GEORGE PROJECT POTENTIAL

### HIGHLIGHTS

- *Independent review of Resolution's George Project, in South Australia, concludes that the Project is highly prospective for palaeo-valley hosted uranium mineralisation.*
- *The George Project is prospective for Honeymoon (Frome Embayment, Callabonna Sub-basin) and Mulga Rock style uranium deposits.*
- *Critical Eyre Basin and Eromanga Basin sediments are widespread at the George Project.*
- *Known uranium mineralisation occurs at surface at the George Project, with multiple historic uranium and vanadium rock chip samples above 100ppm.*

**Resolution Minerals Ltd (RML or Company)** (ASX: **RML**) is pleased to announce the results of a recent independent review of its George Project (**George** or the **Project**). The review was undertaken by Mr Ross Brown of Riviere Minerals, who has many years' experience in sedimentary-hosted uranium mineral systems.

The **George Project Uranium Potential Presentation** follows this announcement. The review has accessed previously released data and general information available publicly on the ASX portal and South Australian Government Resource Information Gateway (or **SARIG**). Key take ways in the positive assessment of the uranium potential of the George Project include:

- The large project area (all granted and in good standing) of 3,609km<sup>2</sup> with a Native Title Agreement in place, which is conducive for testing the regional-scale occurrence of a possible new uranium precinct.
- The occurrence of significant known uranium mineralisation including multiple rock chip samples >100ppm, with a peak value of 215ppm, with coincident vanadium (see ASX announcement "New High Purity Silica Sand and Uranium Project" dated 10 February 2023).
- The occurrence of Eromanga and Eyre Basin sediments, same type and geological age as those mineralised in the Frome Embayment uranium precinct of the Callabonna Sub-basin.
- The widespread display of high uranium radiometrics across the Project.
- That previous exploration had not adequately tested for palaeo-valley hosted uranium mineralisation in the past exploration.

**Authorised for release by the board of Resolution Minerals Ltd.**

For further information, please contact Aharon Zaetz Executive Director.

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RML confirms that this announcement the Company is not aware of any new information or data cross referenced in this announcement.

# The Uranium Potential of Resolution Minerals' George Project



The potential exists for palaeo-valley hosted uranium mineralisation at Resolution Minerals Ltd **George Project** (100% owned)

The Uranium Exploration Model for the George Project is **Frome Embayment-Mulga Rock style uranium mineralisation**, and as such, **there is the potential for Honeymoon and Mulga Rock-like deposits occurring at the George Project**



*Rock specimen is not the property of Resolution Minerals Ltd*



*Rivière*  
MINERALS PTY LTD

# Tenement Holding of the George Project

## EL6905

- Ownership: Curie Resources Pty Ltd (100%)
- Grant Date: 13 Feb 2023
- Expiry Date: 12 Feb 2029 (**valid for 56 further months**)
- Area: 770sqkm

## EL6838

- Ownership: Curie Resources Pty Ltd (100%)
- Grant Date: 21 Sep 2022
- Expiry Date : 20 Sep 2028 (**valid for 51 further months**)
- Area: 965sqkm

## EL6839

- Ownership: Curie Resources Pty Ltd (100%)
- Grant Date: 21 Sep 2022
- Expiry Date : 20 Sep 2028 (**valid for 51 further months**)
- Area: 939sqkm

## EL6840

- Ownership: Curie Resources Pty Ltd (100%)
- Grant Date: 21 Sep 2022
- Expiry Date: 20 Sep 2028 (**valid for 51 further months**)
- Area: 935sqkm



**All tenements are in  
good standing.**

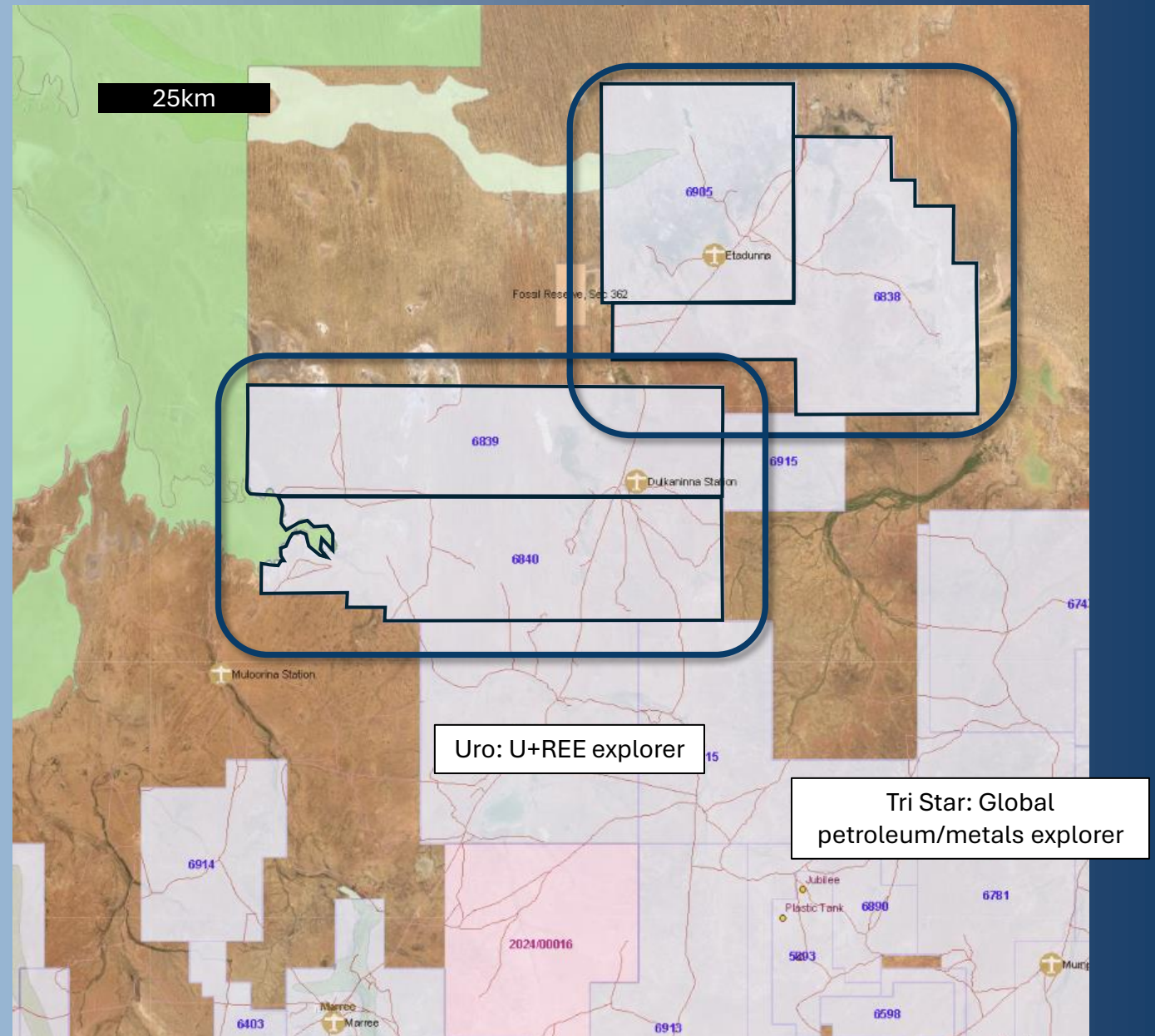




## Tenement Holding of the George Project

- Total combined area of **3,609sqkm**
- Excellent access to and through the project area
- Native Title Agreement obtained

A large landholding is a significant advantage when applying a regional exploration model to an under-explored area such as that N and NW of the Mount Painter Inlier.



# A Regional Perspective of the George Project

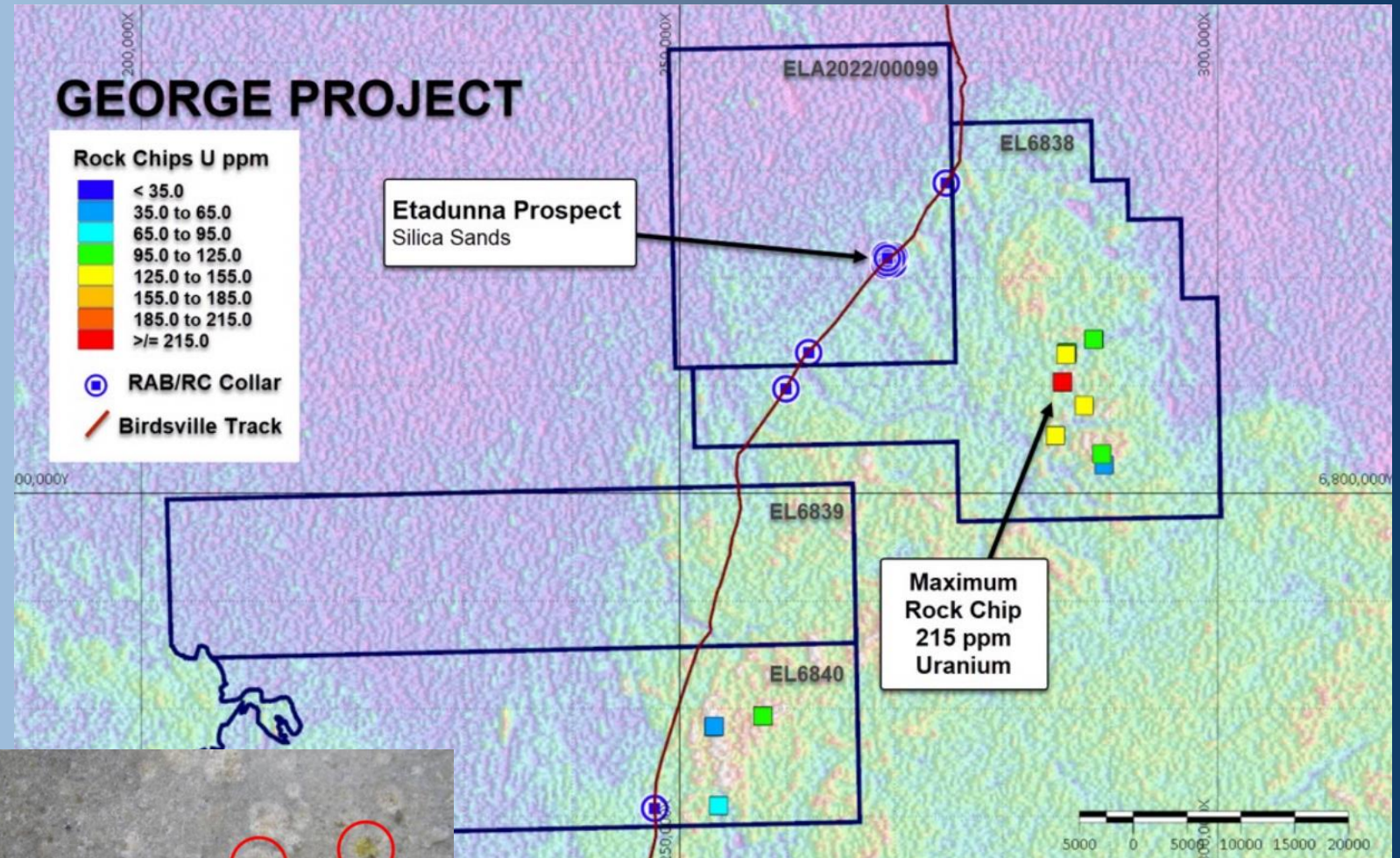
- The George Project is located in the **Tirari Sub-basin** of the **Eyre Basin**
- Tirari Sub-basin, like the Callabonna Sub-basin, is adjacent to the regional NW-SE alignment of “hot” uranium basement rocks
- Economic and potentially economic sedimentary-hosted uranium deposits occur “either side” of the hot” uranium basement rocks





# Significant Uranium Mineralisation known at the George Project

- 14 historic rockchip samples (Regalpoint 2009) return highly uranium and vanadium
  - 7 (50%) returned > 100ppm U
  - **Peak result 215ppm U**
  - With coincident anomalous V
- **Carnotite** recorded in surface samples (not sampled)
- Broad areas with pXRF U readings x10 background



Carnotite (a Uranium-Vanadate mineral) in silicified sandstone.

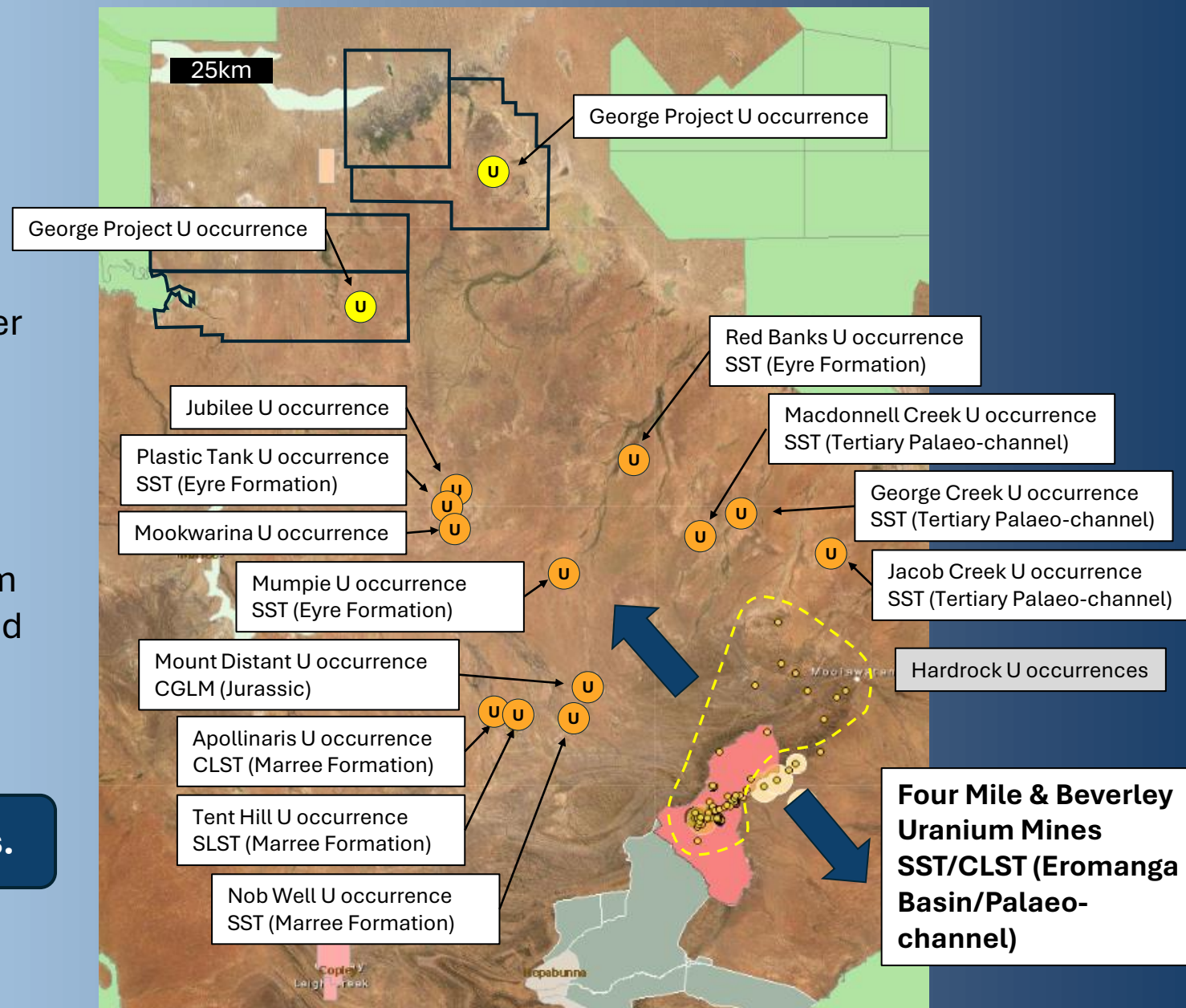




# Multiple known Uranium Occurrences in the Area

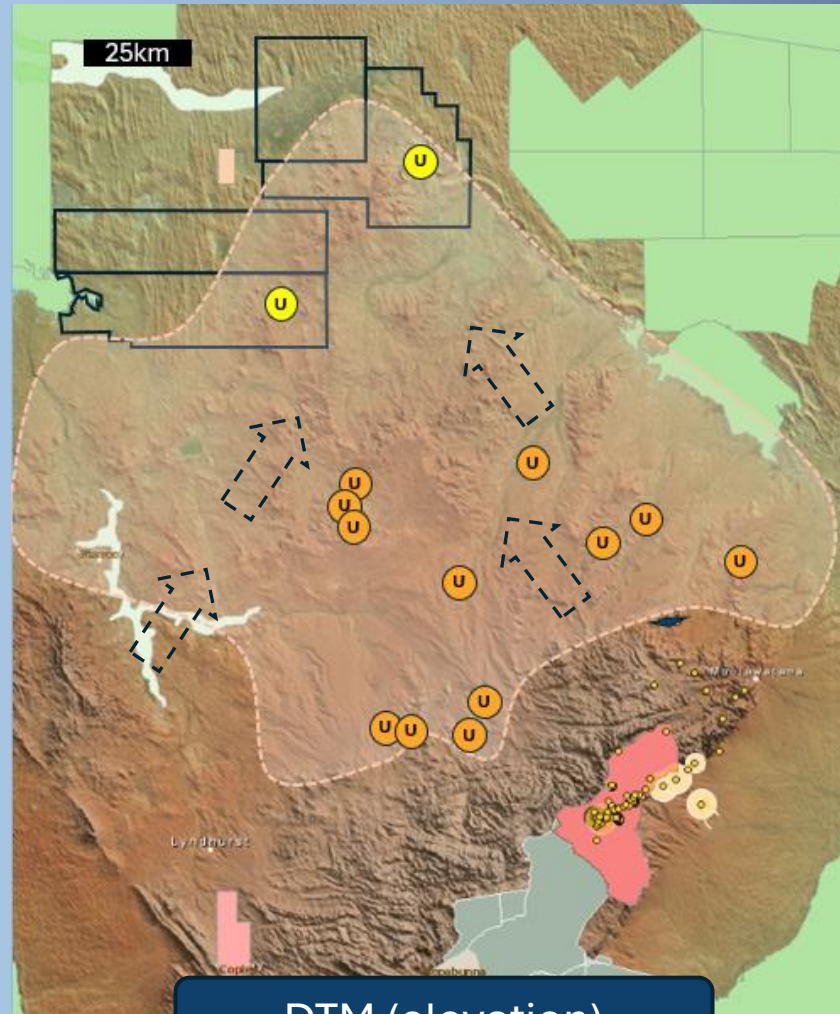
- There are 12 known uranium occurrences across a large area northwest of the Mount Painter Inlier
- The Frome Embayment (or Callabonna Sub-basin) uranium province occurs southeast of the Mount Painter Inlier
- In all cases (south or north) uranium is hosted in basin sediments derived from topographically high “hot” basement rocks

**Uranium sheds both ways.**

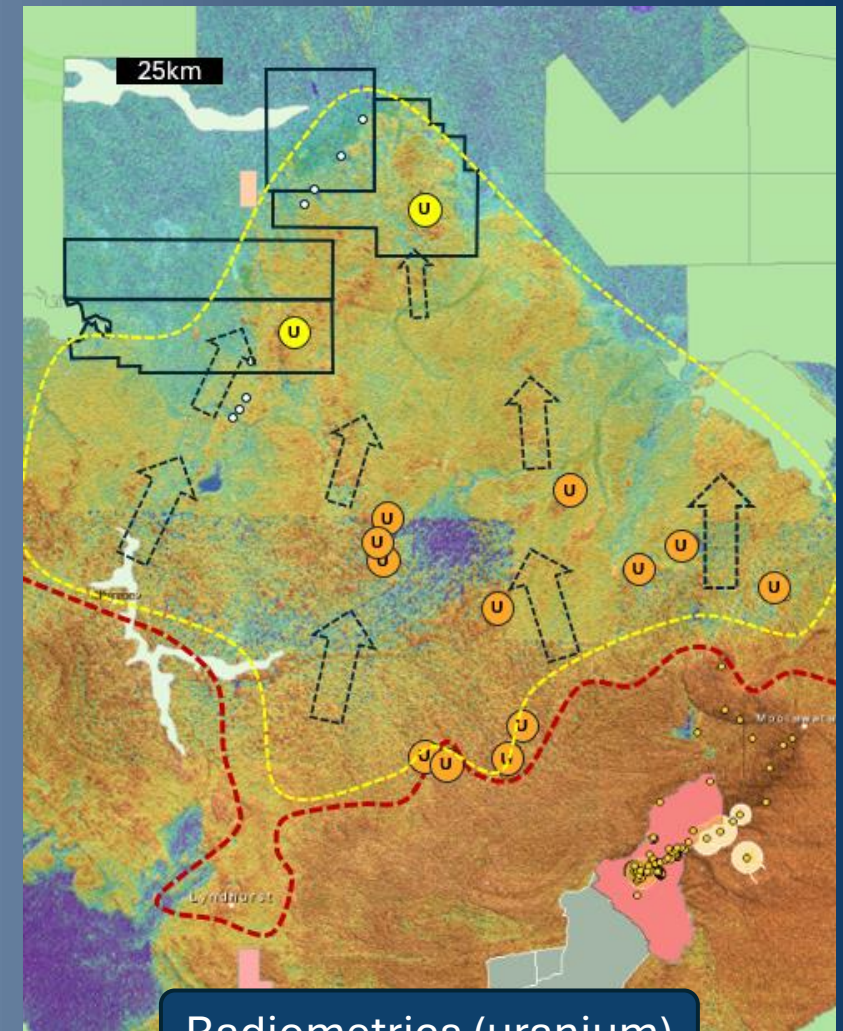


## George Project is “down slope” from hot basement rocks to the SW and SE

- The George Project is geographically “down slope” from the neighbouring “hot” basement areas
- This is reflected in the distribution of uranium as seen in the regional radiometrics (shedding NE and NW from these high “hot” basement areas)



DTM (elevation)

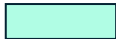






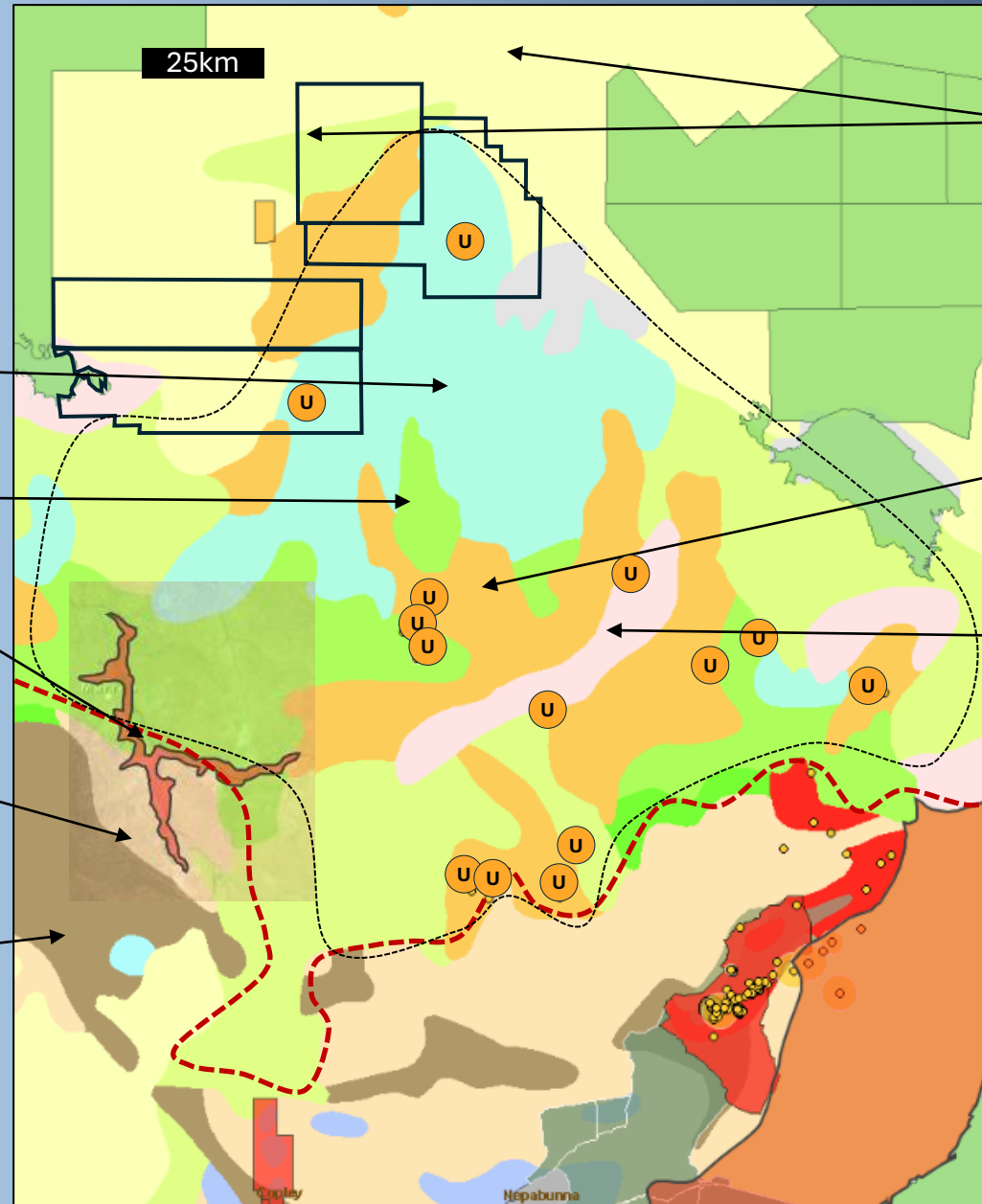
Radiometrics (uranium)





# George Project hosts Eromanga and Eyre Basin Sediments


Sediments shed mainly in a S to N direction

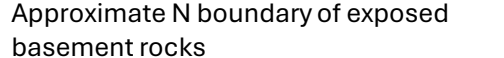
- Eromanga Basin Cretaceous Manuka Sub-group (sst, slt, cl, coal) 
- Eromanga Basin Cretaceous Oodnadatta Formation (marine cl, slt) 
- Eromanga Basin preserved palaeo-channels 
- Adelaide Geosyncline Neoproterozoic Heysen Supergroup 
- Adelaide Geosyncline Neoproterozoic Warrina Supergroup 



- Quaternary sediments 

- Eocene-Pleistocene palaeo-valley/lake deposits 

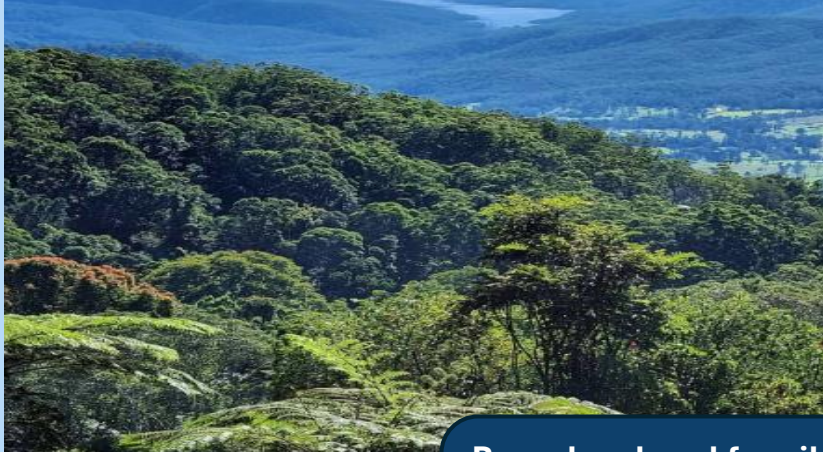
- Miocene-Pliocene palaeo-valley/lake deposits 

- Approximate N boundary of exposed basement rocks 

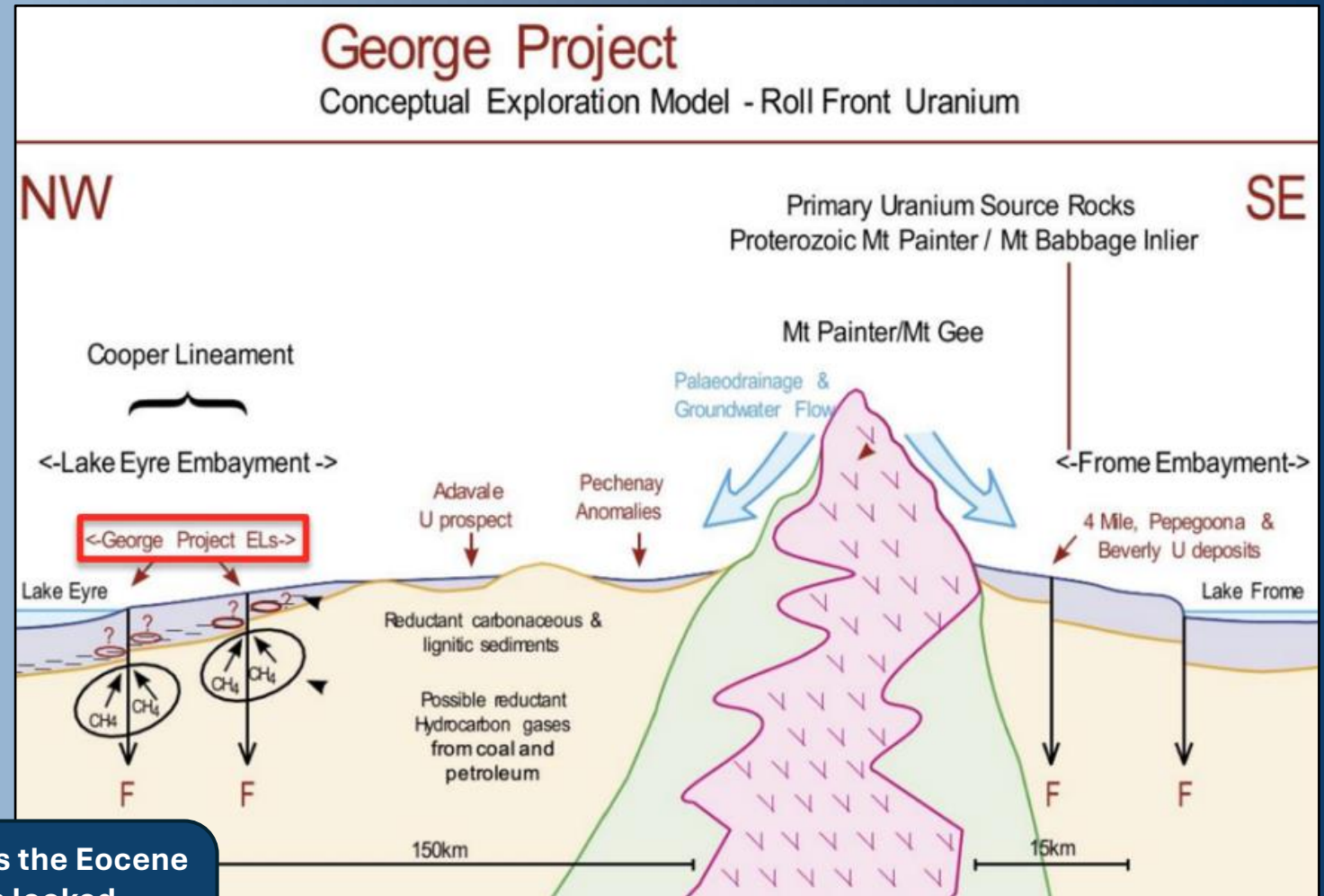


# Palaeo-valley Uranium Exploration Model for the George Project

- **Source of U:** Local “hot” basement rocks (Mount Painter and other granites)
- **Transportation:** Palaeo-valleys
- **Carriers of U:** Reductants such as lignite and carbonaceous matter
- **Host units:** Eromanga and Eyre Basin sediments



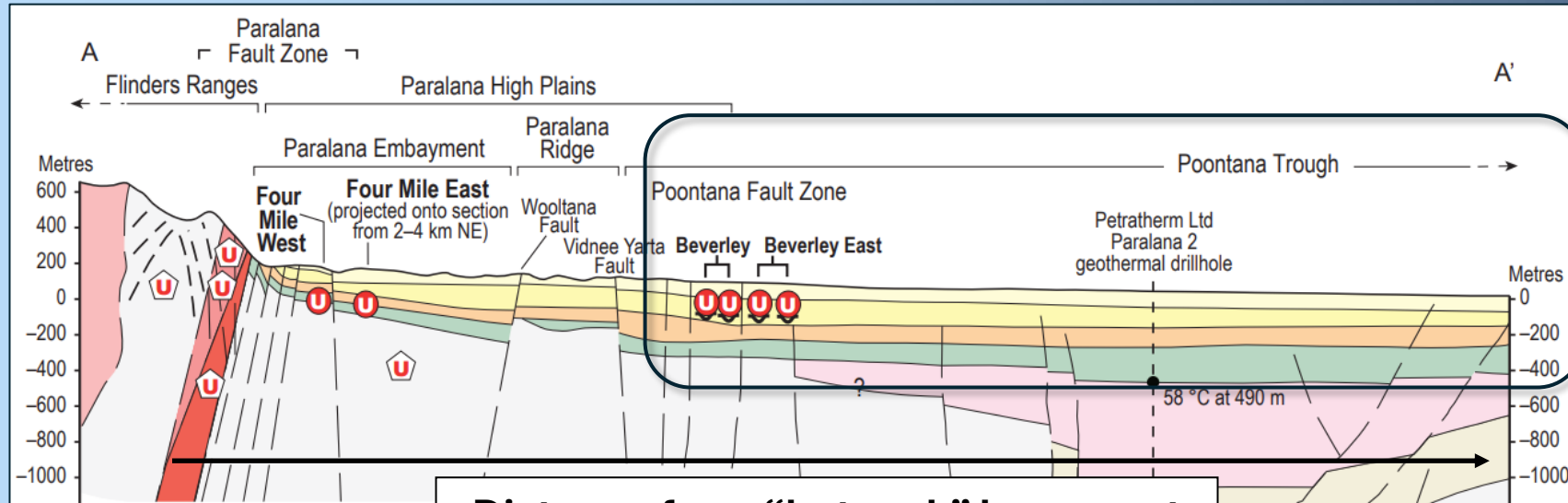
Based on local fossil finds the Eocene in the George Project area looked more like the Lamington NP (northern QLD) than the central deserts today.



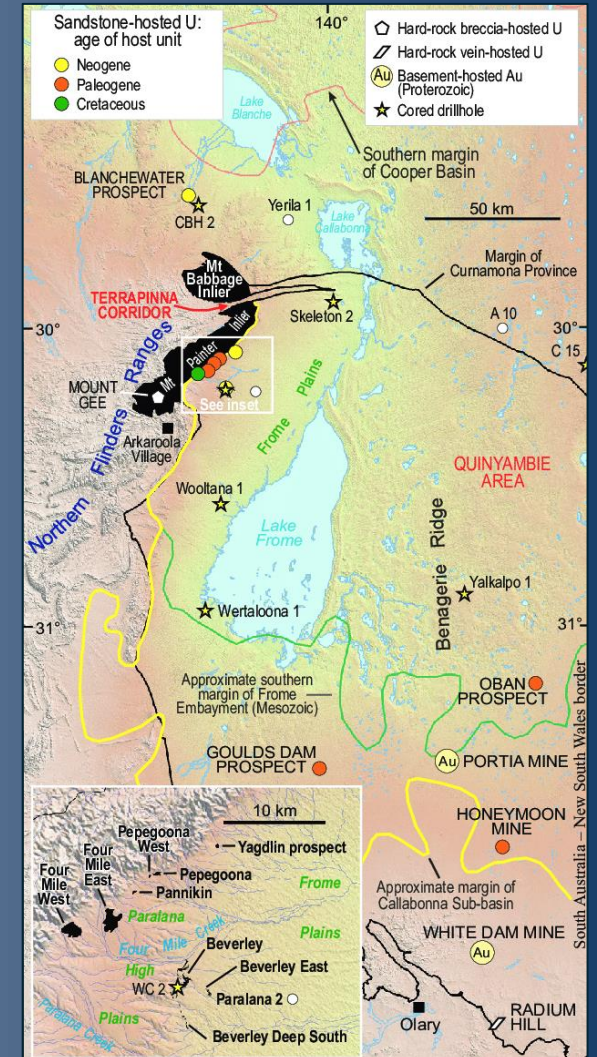


# South Australian Analogues for George Project Uranium Mineralisation

- Palaeo-valley hosted [distal roll-front/tabular] uranium deposits:
  - **Honeymoon: 71.6Mt @ 620ppm  $U_3O_8$**  (ref: Koba Resources presentation 04.2024)
  - **Gould's Dam: 17.7Mt @ 480ppm  $U_3O_8$**  (ref: Boss Energy announcement 16.08.2023)
  - **Oban: 4.6Mt @ 260ppm  $U_3O_8$**  (ref: Koba Resources presentation 04.2024)
- Palaeo-valley hosted REDOX type uranium deposits
  - **Mulga Rock: 115.0Mt @ 420ppm  $U_3O_8$**  (ref: Deep Yellow website)



Distance from “hot rock” basement



# Kazakhstan Analogue for George Project Uranium Mineralisation

- Chu-Saryssu U Province
- Syr-Darya Uranium Province
- Kazatomprom produces 22% of global uranium (26 deposits – using 100% ISR methods)

**The Palaeo-valley Frome Embayment uranium model used for the George Project draws similarities to the Kazakhstan uranium deposits:**

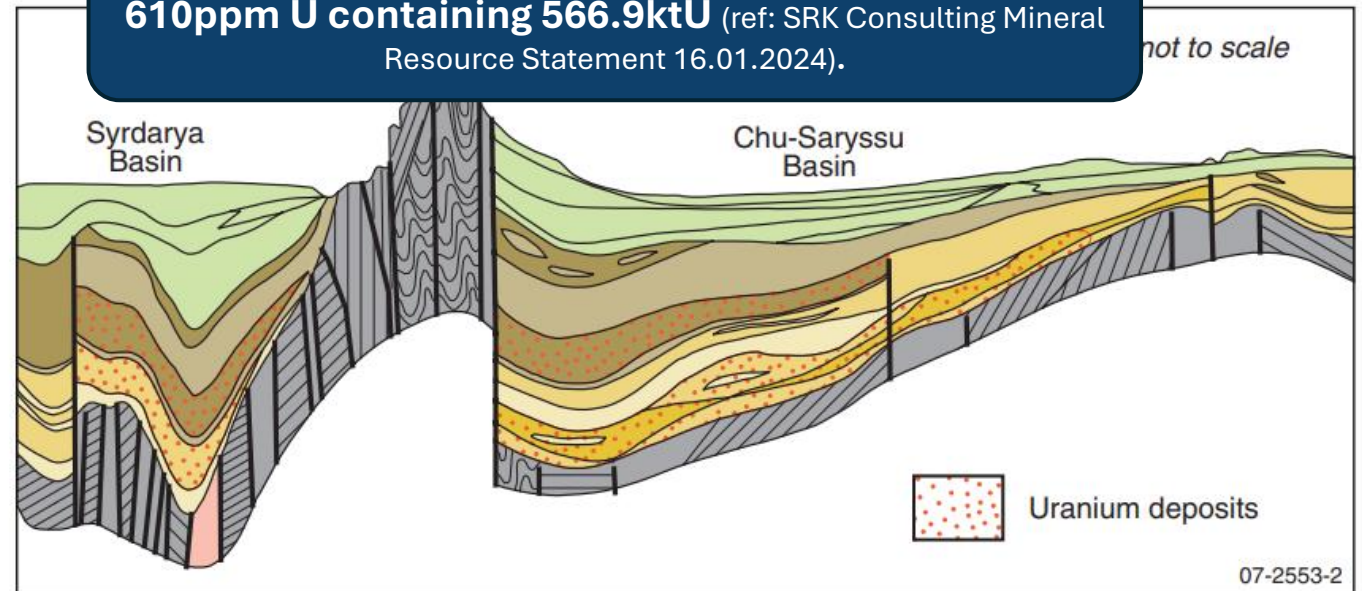
- Similar geological setting
- Same geological age
- Same presence of “hot” basement rocks shedding U into basin sediments.

## The geological setting in Kazakhstan

The Chu-Saryssu and Syrdarya basins of Kazakhstan are components of a large artesian basin that was split into two main components following the Pliocene uplift of the Karatau Mountain Range (figure 1). The basins are filled with thick sandstone aquifers capped by impermeable shaly beds. Mineralisation, often as roll fronts, is hosted by sands of Upper Cretaceous and Palaeocene–Eocene age.



**Total Mineral Resources (as at 2023) = 929.4Mt @ 610ppm U containing 566.9ktU** (ref: SRK Consulting Mineral Resource Statement 16.01.2024).



### Neogene and Quaternary

- Alluvium and sediment
- Clay/silt - thick aquitard
- Sand

### Late Cretaceous

- Clay/silt
- Medium and fine grained sands
- Coarse grained sand/gravel

### Palaeozoic

- Shale, sandstone, limestone; locally hydrocarbons-bearing
- Granite



# Proposed Regional Geochronology – A case of repeating Uranium-Sediment Cycles



- Emplacement of “hot” uraniferous basement rocks
- Erosion of “hot” uraniferous basement rocks and uranium-bearing sediments during the Palaeozoic
- Erosion of “hot” uraniferous basement rocks and uranium-bearing sediments during the Mesozoic Jurassic and Cretaceous (**Eromanga Basin**)
- Carving of Jurassic and Cretaceous palaeo-valleys
- Detrital transportation of uranium (in reduced depositional environments)
- Overprinting of Palaeozoic palaeo-valleys (stream capture, reversals, topographic inversions)
- Valley infill and broad basin in-fill
- **Precipitation and concentration of uranium (in oxidised depositional environments)**
- Erosion of “hot” uraniferous basement rocks and uranium-bearing sediments during the Tertiary Paleogene-Neogene (**Eyre Basin**)
- Carving of Paleogene-Neogene palaeo-valleys
- Detrital transportation of uranium (in reduced depositional environments)
- Overprinting of Palaeozoic palaeo-valleys (stream capture, reversals, topographic inversions)
- Valley infill and broad basin in-fill
- **Precipitation and concentration of uranium (in oxidised depositional environments)**
- The continued drying of Australia’s interior, leading to sheet-wash alluvials and sand dune fields

**First cycle.**

**Second cycle.**

# The importance of sedimentary-hosted uranium in Australia

## REVIEW

## Australian sandstone-hosted uranium deposits

R. Penney\*

Australia's sandstone-hosted uranium deposits occur in sedimentary basins of Carboniferous, Cretaceous and Tertiary age; these include some of Australia's largest and highest grade uranium deposits. The conventional model for sandstone-hosted uranium deposits has proved robust and a predictive model leading to the discovery of many deposits in Australia. The location of deposits is strongly influenced by the presence of Mesoproterozoic and Archaean age leachable uranium-rich source rocks in the headwaters of channels draining into basins developed in the Northern Territory, Western Australia and South Australia. Australia's production of uranium from sandstone-hosted deposits is limited to two in-situ leach operations and is relatively minor when compared to production from Kazakhstan and the USA. Nevertheless, Australia has a large inventory of uranium resources in 19 undeveloped sandstone-hosted deposits, amounting to 123 kt U<sub>3</sub>O<sub>8</sub>. The average grade of all 21 Australian deposits that have resources is 0.15% U<sub>3</sub>O<sub>8</sub>.

Tertiary palaeochannels host the greatest number of deposits and include the largest and highest grade deposits. The Callabonna Sub-basin in South Australia is the most richly endowed basin, accounting for 62.4 kt U<sub>3</sub>O<sub>8</sub>, being 38% of Australia's sandstone-hosted resource inventory.

Australia remains highly prospective for the discovery of new palaeochannel hosted uranium deposits, with regional airborne geophysical surveys likely to be of great assistance in continuing to define palaeochannel systems that may host uranium in basins draining uranium rich source rocks.

Extract from R. Penny 2012, Australian sandstone-hosted uranium deposits



Basin age	Deposit types	No. of deposits with resources	Average grade %U <sub>3</sub> O <sub>8</sub>	U <sub>3</sub> O <sub>8</sub> kt	% of total contained U <sub>3</sub> O <sub>8</sub>
Early Carboniferous	Tabular and roll-front	3	0.12	25.9	15.7
Cretaceous	Tabular and roll-front	3	0.06	18.9	11.5
Tertiary (incl. Four Mile West)	Channel	15	0.17	119.9	72.8
Total		21	0.15	164.7	100

Basin	Principal uranium deposits	Age of host strata	Contained U <sub>3</sub> O <sub>8</sub> kt	Average grade of resource % U <sub>3</sub> O <sub>8</sub>	Company or data source	Deposit sub-type	Principal uranium minerals
Ngalia	Bigriyi	Carboniferous	9.34	0.132	Energy Metals	Tabular	Uraninite, carnotite
Amadeus	Angela	Carboniferous	6.6 (H)	0.12	Borschoff and Faris (1990)	Roll-front	Uraninite, pitchblende, coffinite
Canning	Oobagooma	Carboniferous	9.96 (H)	0.12	Brunt (1990)	Tabular roll-front	
Carnarvon	Carley Bore (Nyang)	Cretaceous	5.92	0.035	Energia Minerals	Tabular roll-front	
	Manyingee	Cretaceous	10.65	0.08	Paladin Energy	Tabular roll-front	Uraninite, coffinite, meta-autunite, brannerite
Callabonna Sub-basin	Bennet Well (Yanrey)	Cretaceous	2.16	0.03	Cauldron Energy	Tabular channel	Coffinite (uraninite)
	Beverley	Late Oligocene – Miocene	21.0 (H)	0.18	McKay and Mieztis (2001)		
	Four Mile, East	Palaeocene to Eocene	13.0	0.31	Alliance Resources	Roll-front	Uraninite
	Four Mile, West	Cretaceous	19.0	0.34	Alliance Resources	Roll-front	Uraninite
	Honeymoon	Palaeocene to Eocene	2.9	0.24	Uranium One	Channel	Coffinite
	Goulds Dam	Palaeocene to Eocene	2.0	0.12	Uranium One	Channel	Coffinite, uraninite
	Oban	Eocene	2.1	0.026	Curnamona Energy	Channel	
Eucla West	East Kalkaroo	Palaeocene to Eocene	0.9	0.074	Uranium One	Channel	
	Junction Dam (Saffron)	Palaeocene to Eocene	1.5	0.023/0.047	Marmota Energy	Channel	Coffinite, uraninite
	Mulga Rock Deposits incl.	Eocene			Energy and Minerals Australia	Channel, lignite, tabular	U adsorbed onto organic carbon
	Ambassador		12.5	0.051			
	Emperor		11.97	0.05			
Eucla East (Eyre Peninsula)	Shogun		2.16	0.059			
	Pontoon Project	Eocene			Manhattan Corporation	Channel	
	Double 8		7.80	0.03			
	Sapphire Project	Eocene			UraniumSA	Channel	Coffinite, uraninite
	Blackbush		12.7	0.028			
	Plumbush		6.3	0.029			
	Warrior	Eocene	4.0 (H)	0.034	Curtis et al. (1990)	Channel, lignite	

\*H' denotes an historical resource figure.

Extracts from R. Penny 2012, Australian sandstone-hosted uranium deposits

**Tertiary palaeo-channels host the greatest number of deposits and include the largest and highest-grade deposits. The Callabonna Sub-basin in South Australia is the most richly endowed basin, accounting for 62,000t U<sub>3</sub>O<sub>8</sub> – being 38% of Australia sandstone-hosted resource inventory.**



# South Australia is the premier uranium jurisdiction of Australia

If you want to explore, develop and mine uranium in Australia – it ought to be in South Australia.

## Uranium in South Australia

South Australia is a major exporter of uranium oxide and attracts many companies (including global majors) to explore, develop and mine uranium.

- South Australia hosts:
  - ♦ approximately 80% of Australia's economic demonstrated resources of uranium.
  - ♦ approximately 23% of the world's uranium resources.
- The Olympic Dam deposit in South Australia is the largest uranium deposit in the world, containing more than 2 million tonnes of uranium oxide.
- South Australian uranium mines lead the nation's production with 5497 tonnes of uranium oxide produced in 2020.
- South Australia hosts four approved uranium mines:
  - ♦ [Olympic Dam](#)
  - ♦ [Beverley and Beverley North](#)
  - ♦ [Four Mile](#)
  - ♦ [Honeymoon](#)

*Extract from Government of South Australia  
Energy and Mining website.*



## South Australia's advantage

- Demonstrated experience with technologies for processing uranium ore, developed from the state's uranium mines using different ore beneficiation processes.
- Proven safe uranium handling and transportation systems (35 year record).
- Has one port (Port Adelaide) of only two Australian ports approved for uranium exports.
- Produces around 10% of the world's uranium, indicating there is significant potential for long term production and expansion.
- Has the demonstrated geology with high potential for further discoveries.

*Extract from Government of South Australia  
Energy and Mining website.*



# ASX-listed Alligator Energy (AGE) activate their Big Lake Project

Located 70km east of the George Project

**Alligator own 100% of the Big Lake Project and targeting the discovery of Australia's next ISR uranium field.**

## Big Lake Uranium Prospect, South Australia

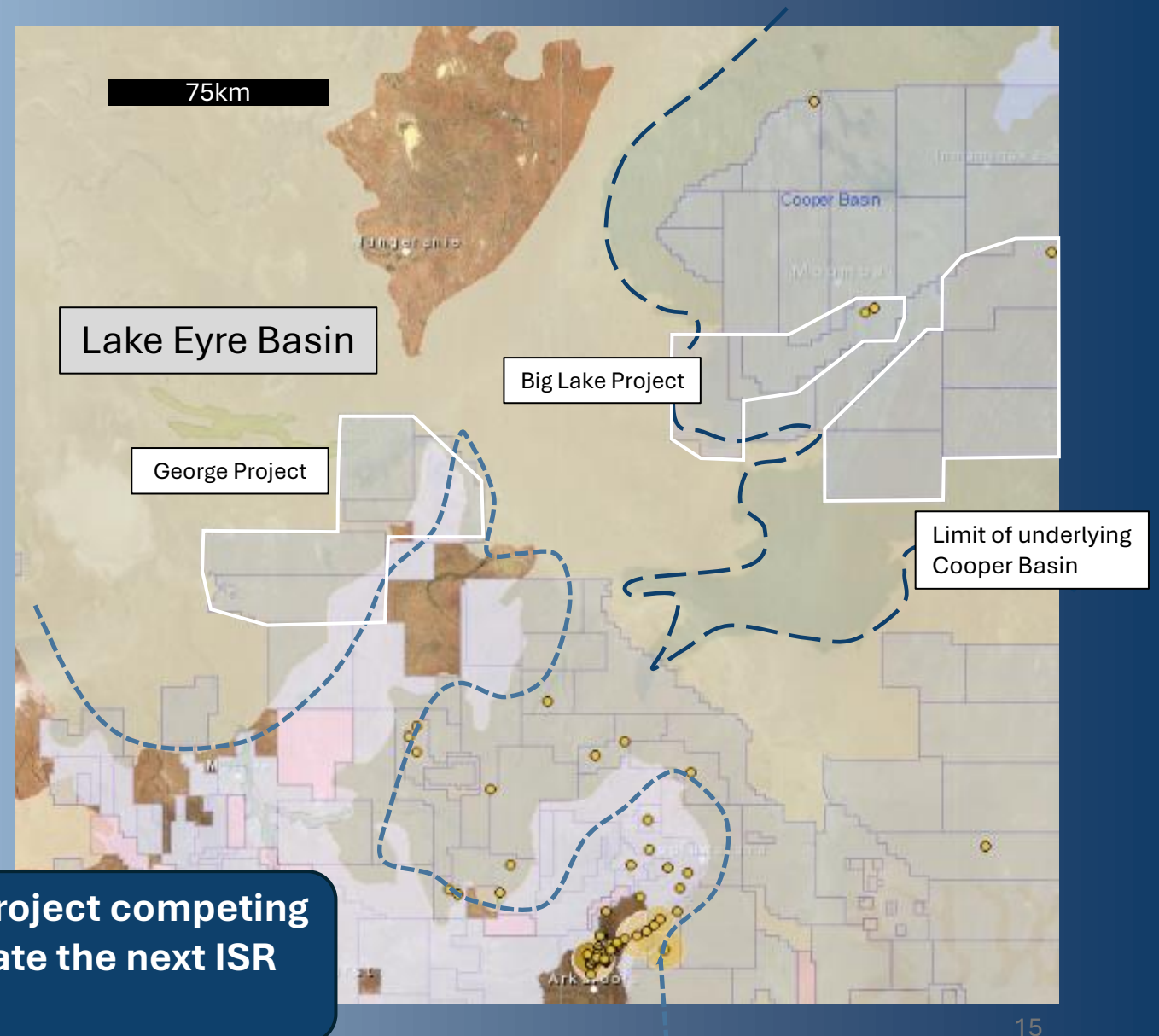
Alligator owns 100% of the Big Lake Uranium Project in the Cooper Basin, South Australia, a project targeting discovery of Australia's next ISR uranium field.

Uranium occurrences have been identified from historic oil and gas well gamma logging and confirmed by limited uranium exploration in the region. The project targets REDOX and roll front uranium mineralisation within stratigraphic paleochannels of the Lake Eyre Basin. The model is for uranium to be sourced from distal uranium rich basement rocks and transported as oxidised fluids through paleochannels.

Alligator has conducted and completed an airborne electromagnetic (EM) survey as of August 2021, seeking to identify key paleochannel signatures that could indicate the presence of low cost ISR style deposits.

Alligator is in the process of finalising a Native Title Agreement for Mineral Exploration with the Yandruwandha Yawarrawarka Traditional Landowner Corporation. This will enable a cultural clearance survey to occur ahead of the planned inaugural drill program during 2023.

*Extract from Alligator Energy website.*



**Resolution's George Project competing with Alligator to generate the next ISR uranium field.**



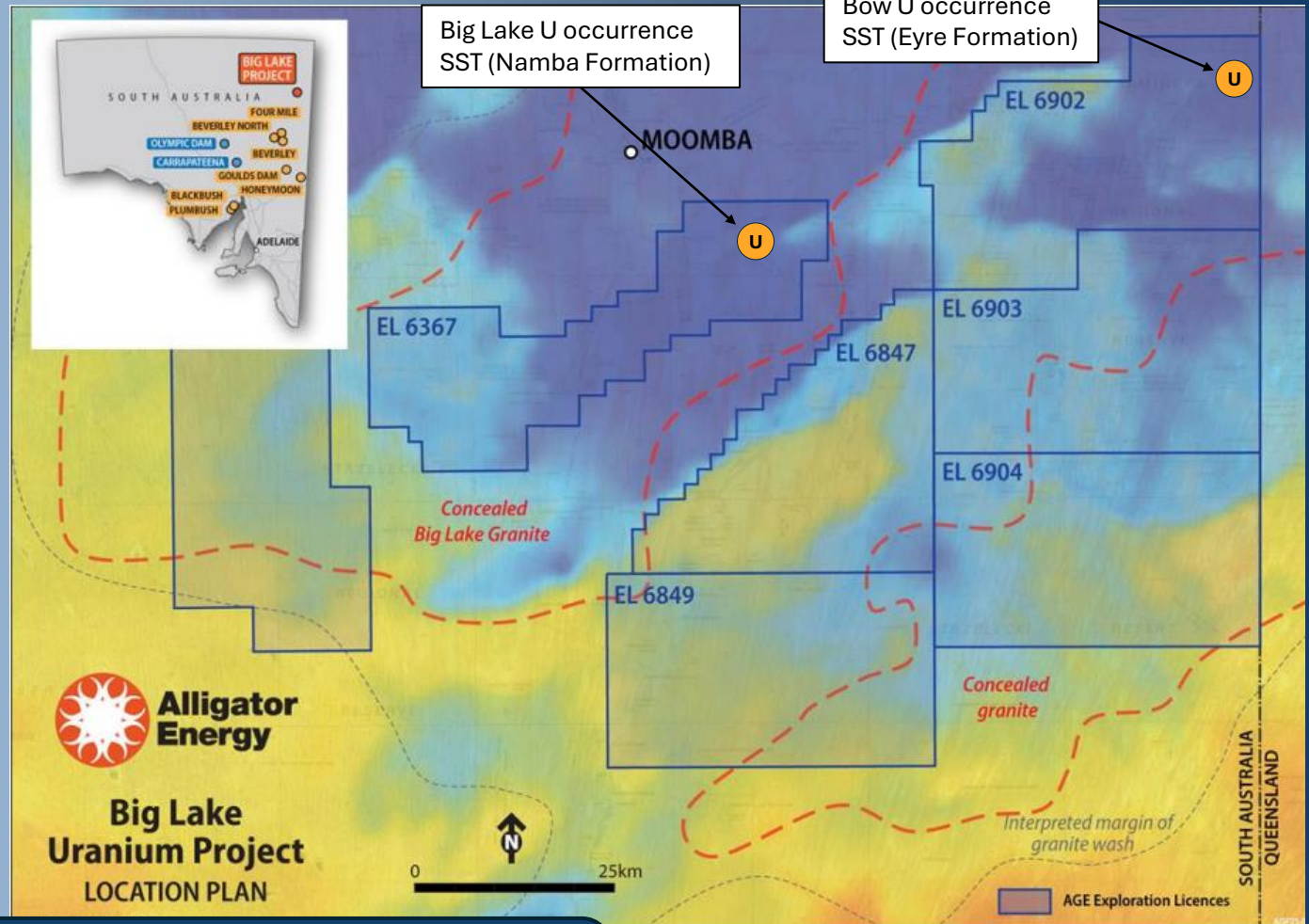
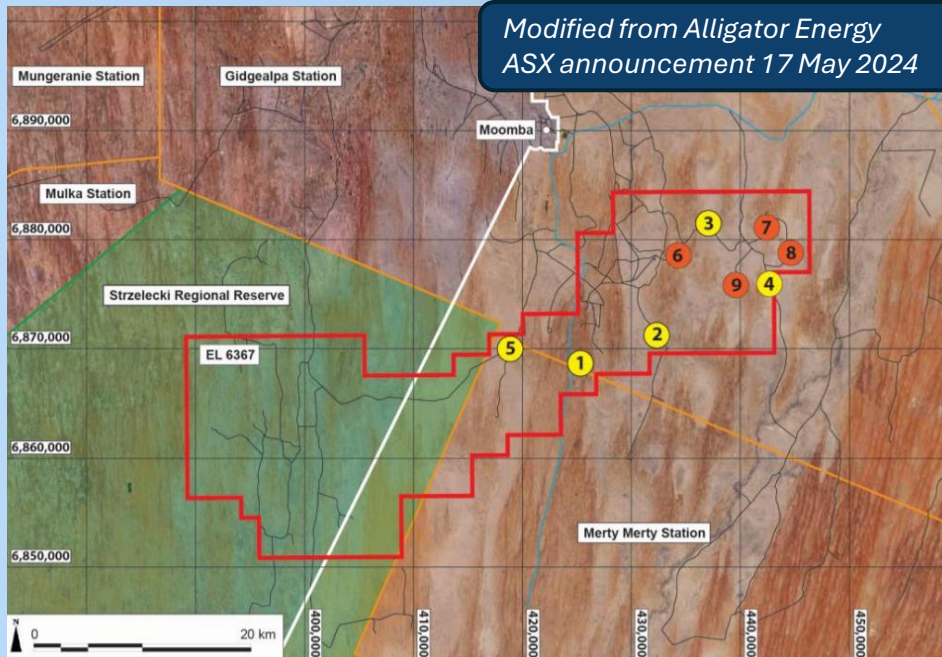




## ASX Announcement

17 May 2024

### Drilling Commences at Big Lake Uranium Project, South Australia



Alligator is targeting the late Cretaceous Eromanga Basin Winton Formation and younger Eyre Basin sedimentary sequences.

Modified from Alligator Energy ASX announcement 17 May 2024



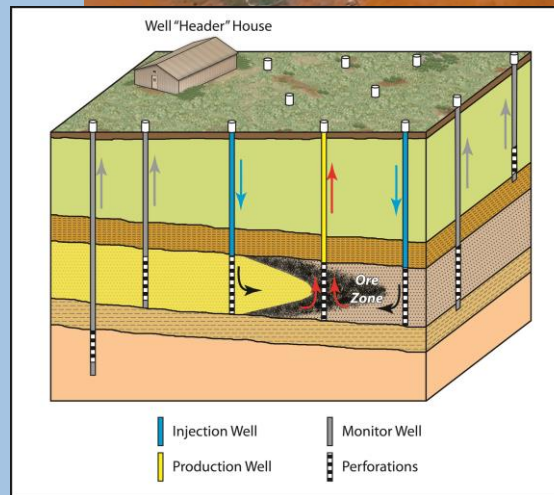


# The uranium deposit types targeted at George Project are conducive to *In Situ Recovery (ISR)* production

- Tertiary palaeo-valley uranium deposits are conducive to In Situ Recovery (ISR) methods (Beverley and Honeymoon)
- ISR deposits can be highly economic
- ISR deposits tend to have reduced environmental impact

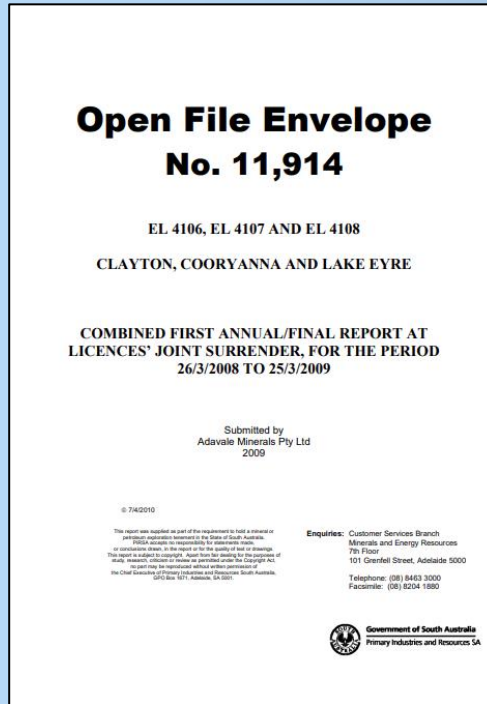


Beverley Mine pictured

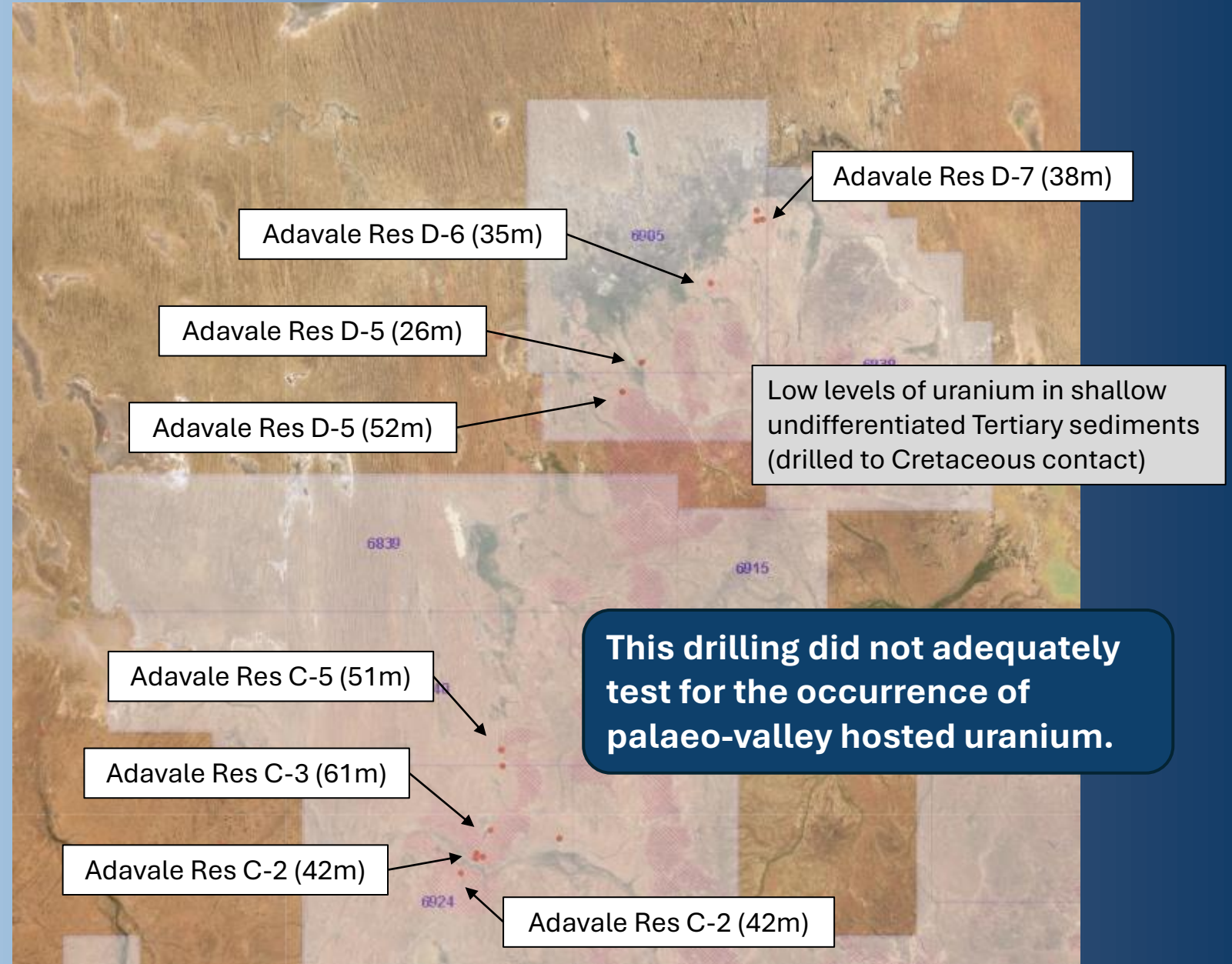




# Past non-RML Drilling at the George Project



Extract from Government of South Australia  
Primary Industries and Resources SA open file  
report online platform SARIG.

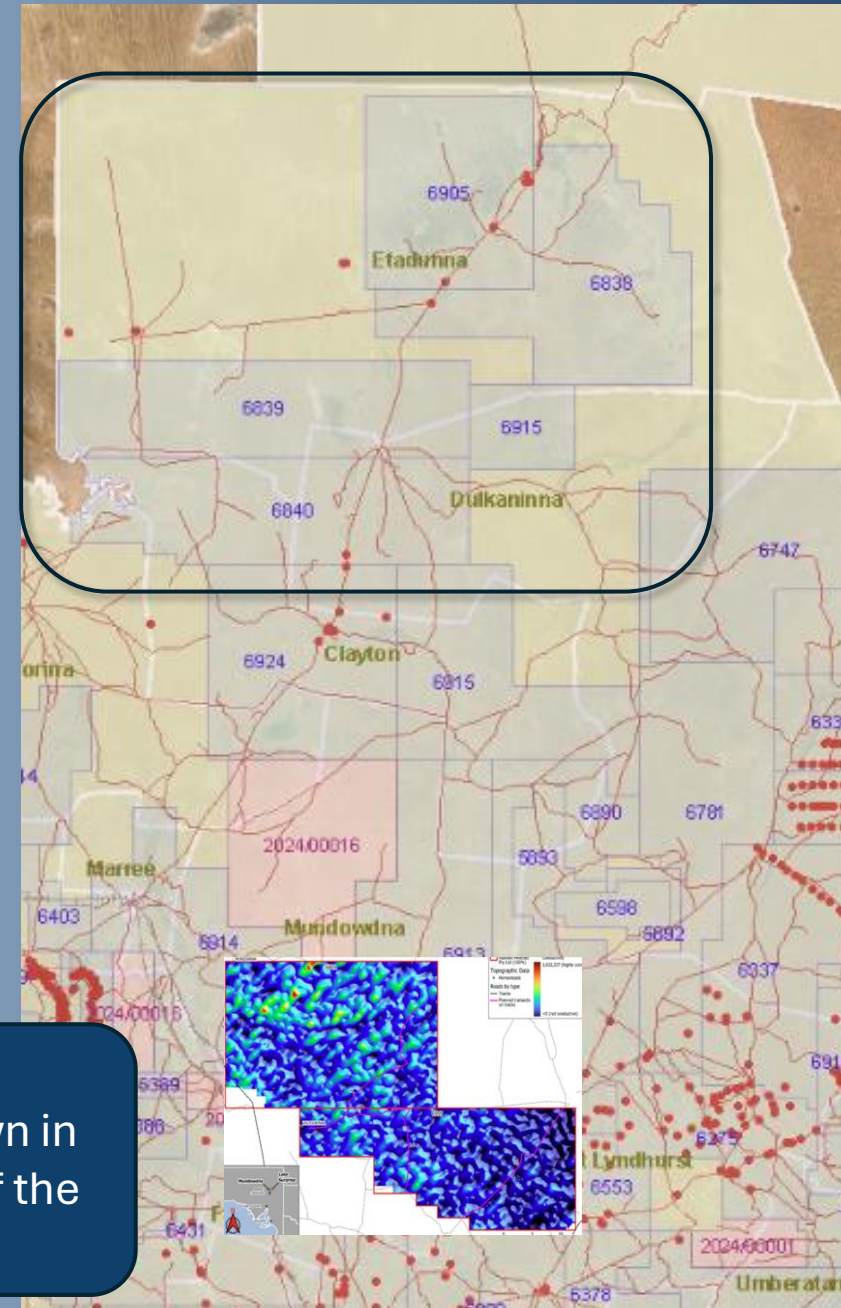


# Recommended Next Steps at the George Project

The principal uranium targets at the George Project are Late Cretaceous to Paleogene-Neogene aged palaeo-valleys

- Search online databases for the existence of possible AEM surveys that cover the George Project area – acquire same if available and interpret with emphasis on palaeo-valleys
- Consider flying new AEM if no past surveys adequately cover the George Project area
- Consider a broad-spaced mapping and sampling program to determine possible surface uranium mineralisation (investigating areas of relatively high U responses in regional radiometric images)

Past Mundowdna TDEM imagery (2007-2009) by Adavale of an AEM survey flown in 2007. The surveyed area is well south of the George Project.





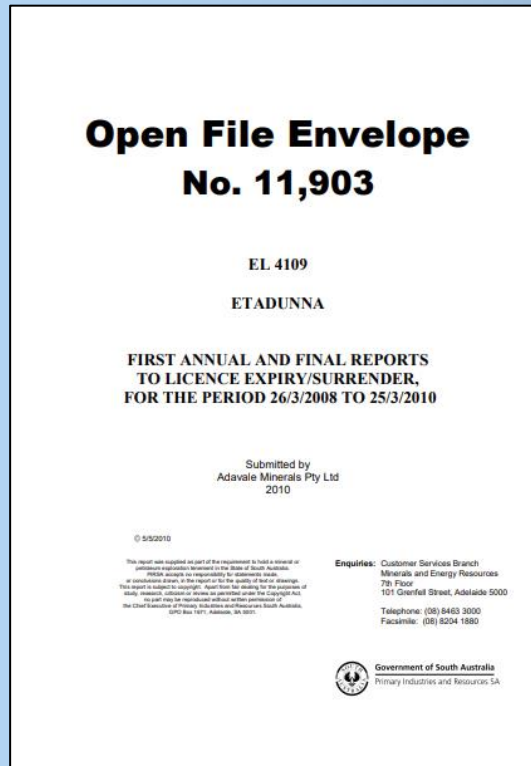
# The Uranium Potential of Resolution Minerals' George Project

## Key Takeaways:

- Large Project area (granted and in good standing)
- Known uranium associated with broad U-radiometric areas
- Regionally “down slope” and adjacent to one of the “hottest” uranium basement areas in the world
- Prospective for palaeo-valley hosted Frome Embayment and Mulga Rock type uranium deposits (Honeymoon/Mulga Rock)
- Hosts key Eromanga and Eyre Basin sediments, same type and geological age and as those mineralised in Frome Embayment (and Kazakhstan) uranium provinces
- Not adequately tested in the past exploration



# The Silica Sand Potential of Resolution Minerals' George Project



Extract from Government of South Australia  
Primary Industries and Resources SA open file  
report online platform SARIG.

## 2.3 Petrological and analytical studies

Petrological analyses of drill samples from D-17 to D-19 are appended (see Appendix 3) and indicate that the silica dioxide component can be upgraded through removal of interstitial clay and iron oxide grains, from an average of 98.4 to 99.3%. Detailed analyses and beneficiation studies were in progress at the end of this reporting period.

## 2.4. Utilisation of the potential industrial sand resource.

The relative remoteness of this deposit probably precludes its use for glass making. However, Adavale is undertaking a scoping study to see if the sand could be utilised to manufacture electronic grade silicon metal. The deposit lies along the Birdsville Track, which is a heavy vehicle transport corridor and is located only 140km north of Leigh Creek. This mining town has electricity for coal mining activities and a railhead. Construction of a silicon metal smelting plant at this location offers a possible means for utilisation of these industrial silica sands and is one of the options being considered during the current economic study. If the economic factors are favourable, then further reverse circulation drilling and costeaning are planned to further evaluate this potential economic resource.

## 3.3 Silica sand

In drill hole D-6 the interval 2 to 36m (base not reached) comprises very pure, fine grained, quartz sand. The sand comprises clean quartz grains, with a particle size between 0.1 to 0.5mm (very fine and fine sand). The grains are polished and are transparent, semi-transparent to translucent and are rounded to well rounded. The sand is very pure and on XRF analyses (two samples) contain less than 1500ppm Fe and 350ppm Zr. These two samples were tested because of the very small gamma ray anomaly which appears to be uranium tied up with the Zr rich mineral zircon. We recommend that the remainder of the samples are analysed to further check on the purity of this silica sand deposit.

A deposit of high quality silica sand extending from 2 to 36m (base not reached) was encountered in D-6. This deposit requires further investigation as to whether this potential resource could be marketed for high quality construction materials in the local petroleum exploration and development industries and nearby mine development projects.

Extracts from Open File Envelope No. 11,903

