

Titleholder	Kurilpa Uranium Pty Ltd
Project Operator	Renaissance Uranium Ltd
Tenement Agent	Australian Mining & Exploration Title Services Pty Ltd
Titles/Tenements	EL 28285
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# RENAISSANCE URANIUM

**EL 28285 LYNDAVALE WEST**

## **ANNUAL TECHNICAL REPORT**

**For the report period ending 3 April 2012**

### **ABSTRACT**

This report represents the first annual technical report for EL 28285 Lyndavale West 100 % owned by Kurilpa Uranium Pty Ltd a wholly owned subsidiary of Renaissance Uranium Limited. EL 28285 Lyndavale West covers approximately 1013 km<sup>2</sup> within the Amadeus Basin, approximately 200 km south-south-west of Alice Springs, Northern Territory. The project is targeting major sandstone hosted uranium in areas not previously recognised or thoroughly evaluated for uranium mineralisation. Kurilpa also recognises particularly subjacent to the Pertinjara unconformity there is potential for other styles of sediment-hosted copper and zinc mineralisation.

The current reporting period on EL 28285, Lyndavale West has involved:

- Desktop based assessment of historic data, particularly nearby seismic, looking for structural and stratigraphic traps for uranium associated with helium gas.

The upcoming reporting period on EL 28285, Lyndavale West is planned to involve:

- Land access negotiations with property owners,
- Defining target areas identified from desktop studies,
- Within target areas defined, carry out soil geochemistry or radon cup sampling, assay and analysis to specifically define drill targets within these areas.

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## 1. LOCATION, TITLE HISTORY, PHYSIOGRAPHY AND ACCESS

EL 28285 is located within Kurilpa Uranium's Amadeus Basin Project which comprises in total, seven (7) exploration licences (Figure 1). The properties cover the central and southern parts of the intracratonic Amadeus Basin, approximately 200 km south-south-west of Alice Springs. This project area is entirely greenfields with no record of any significant past mineral exploration. The Mount Kitty Structure however is presently being investigated by Central Petroleum.

Kurilpa Uranium Pty Ltd. (Kurilpa) was granted EL 28285 on 4<sup>th</sup> April 2011 for a tenure period of six (6) years. The area of the exploration licence covers approximately 1013 km<sup>2</sup> and expenditure commitment for the first year was \$55,000. EL 28285 is located within the Kulgera (SG53-05) 1:250 000 Map Sheet; Sentinel Bore (5346), Angas (5347), Victory (5446) & Ebenezer (5447) 1:100 000 map sheets and covers native title affected, freehold land.

The goal of the Amadeus Basin Project is to locate a major sandstone hosted uranium deposit by applying hydrocarbon concepts and cutting-edge basin analysis technologies. As part of a regional assessment of exploration opportunities in areas of uranium-enriched sources, Kurilpa has focussed on areas not previously recognised or thoroughly evaluated for uranium mineralisation. This has provided evidence in the Central Australian Basins of significant remobilisation of uranium from radiogenic basement into overlying Neoptoterozoic, Palaeozoic and younger sedimentary cover units. Kurilpa believes that the uranium deposits at Angela (Amadeus Basin), Bigrlyi and Napperby (Ngalia Basin) are examples of such a process.

However with the current lack of support for nuclear power and the stagnation of the uranium price, Kurilpa acknowledges obtaining funds for uranium only exploration has been difficult this year hence no on-ground exploration has been undertaken. Kurilpa also recognises in the project area, particularly subjacent to the Pertinjara unconformity there is potential for other styles of sediment hosted copper and zinc mineralisation. More desktop work is being done to review the copper and zinc mineralisation of the area.

Access to EL 28285 is good via the Stuart Highway which runs east of the exploration licence and also serviced by several other maintained roads. The Adelaide-Darwin railway is east of the tenement. The identifiable landmark in the area is the Erldunda Roadhouse and turnoff to Ayres Rock. The licence is covered by native title affected freehold land and the land is used primarily for cattle grazing.

Physiographical nature of the land consists of generally low lying to weakly undulating land with moderate dunes of less than 5 m height, surface cover of ferricrete and calcrete with compact clays and low-lying shrubs.

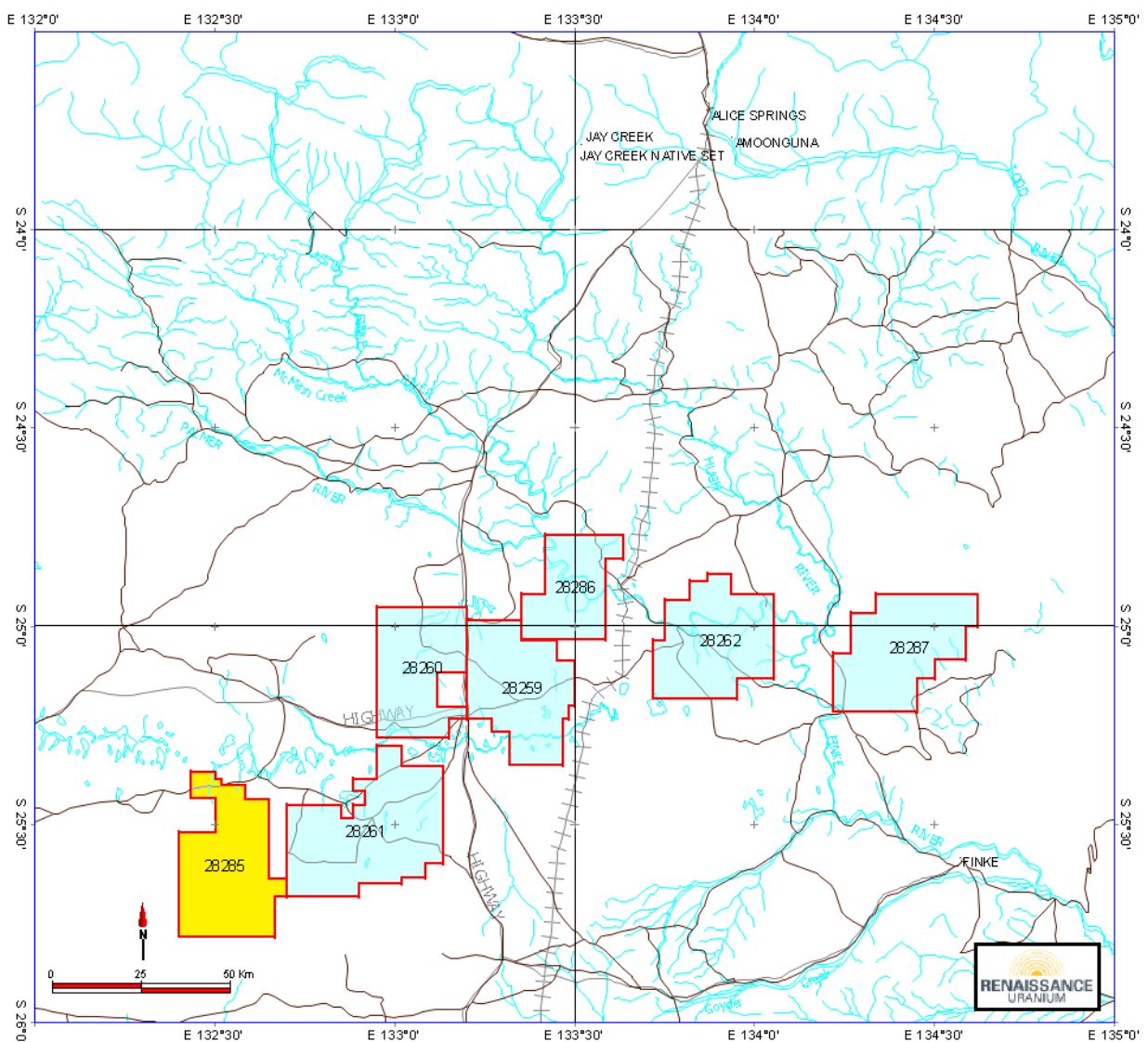


Figure 1: Kurilpa Uranium's Northern Territory tenement locations with EL 28285 highlighted (yellow).

## 2. GEOLOGICAL SETTING, EXPLORATION/MINING HISTORY AND EXPLORATION RATIONALE

### 2.1. GEOLOGICAL SETTING

EL 28285 is located dominantly within the Amadeus Basin, with the southern portion located in the Mesoproterozoic Musgrave Province (Figure 2). The Amadeus Basin is a large intracratonic basin extending across the southern part of the Northern Territory and into Western Australia. It is approximately 800 km long in the east-west direction and up to 300 km wide in the north-south direction containing a thickness of up to 14 km of sedimentary rocks of Neoproterozoic to Palaeozoic age. These are partially covered by surficial Tertiary and Quaternary deposits. The basin has had a long-lived multi-event tectonic history.

Palaeoproterozoic and Mesoproterozoic metamorphic rocks of the Arunta Complex unconformably underlie the basin to the north. To the south the older rocks are the Mesoproterozoic crystalline rocks of the Musgrave Province. Both these basement blocks are dominated by felsic gneisses and granites which are potentially important uranium-enriched source rocks that have repeatedly been shed into the basin during major tectonic inversions (uplifts) of its margins.

In the Amadeus Basin, the basal sequence of Neoproterozoic strata comprises shelf, lagoonal and continental fluvio-glacial sediments, including thick evaporates and minor volcanics. Cambrian sediments of continental and shallow marine origin overlie disconformably and include carbonates and evaporates. Unconformable late Cambrian-Ordovician marine sediments or continental Devonian-Carboniferous sediments complete the sequence.

The present day shape of the Amadeus Basin effectively results from two major orogenic cycles. Extensive broad folding and thrusting deformed the southern margin of the basin during the Petermann Orogeny (late Proterozoic). The Alice Springs orogeny (Devonian-Carboniferous) similarly deformed the northern margin. These events are regarded as important to ore forming processes.

Uranium mineralisation in the Amadeus Basin is localised at redox interfaces in the Devonian-Carboniferous sequence, related to reduced sequences contained in oxidised red-bed sequences. The reduced beds are grey or in places white, where oxidation of pyritic sulphides caused bleaching.

Small sandstone-hosted uranium deposits were discovered in the 1970's. These were the Pamela and Angela prospects, about 100 km north of the current project. Hosted within Late Devonian arkosic sandstones (Brewer Conglomerate) they are close to the hinge zone of the east-west missionary Plains Syncline. Additionally in sediments of similar age and geological setting in the Ngalia Basin (Bigryli), as well as a number of basement hosted uranium occurrences and the Tertiary hosted Napperby uranium deposit. 250K geology of EL 28285 can be seen in Figure 3.

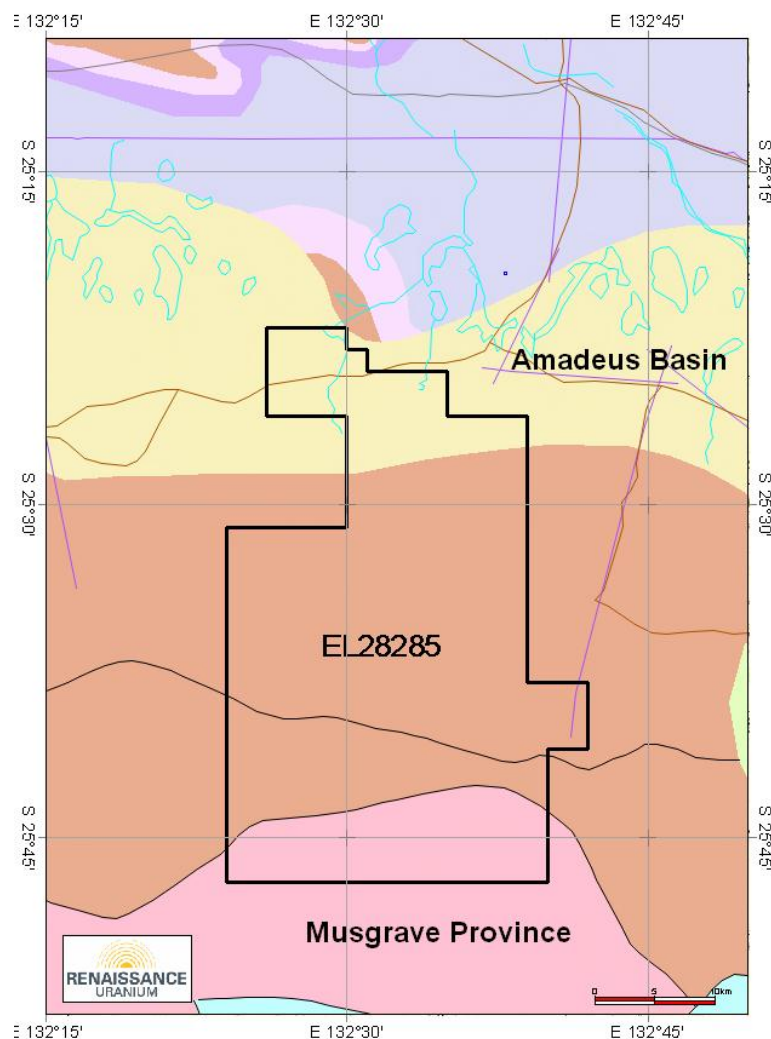


Figure 2: EL 28285 Simplified Regional Geology showing the Amadeus Basin and Musgrave Province occurring in the tenement.

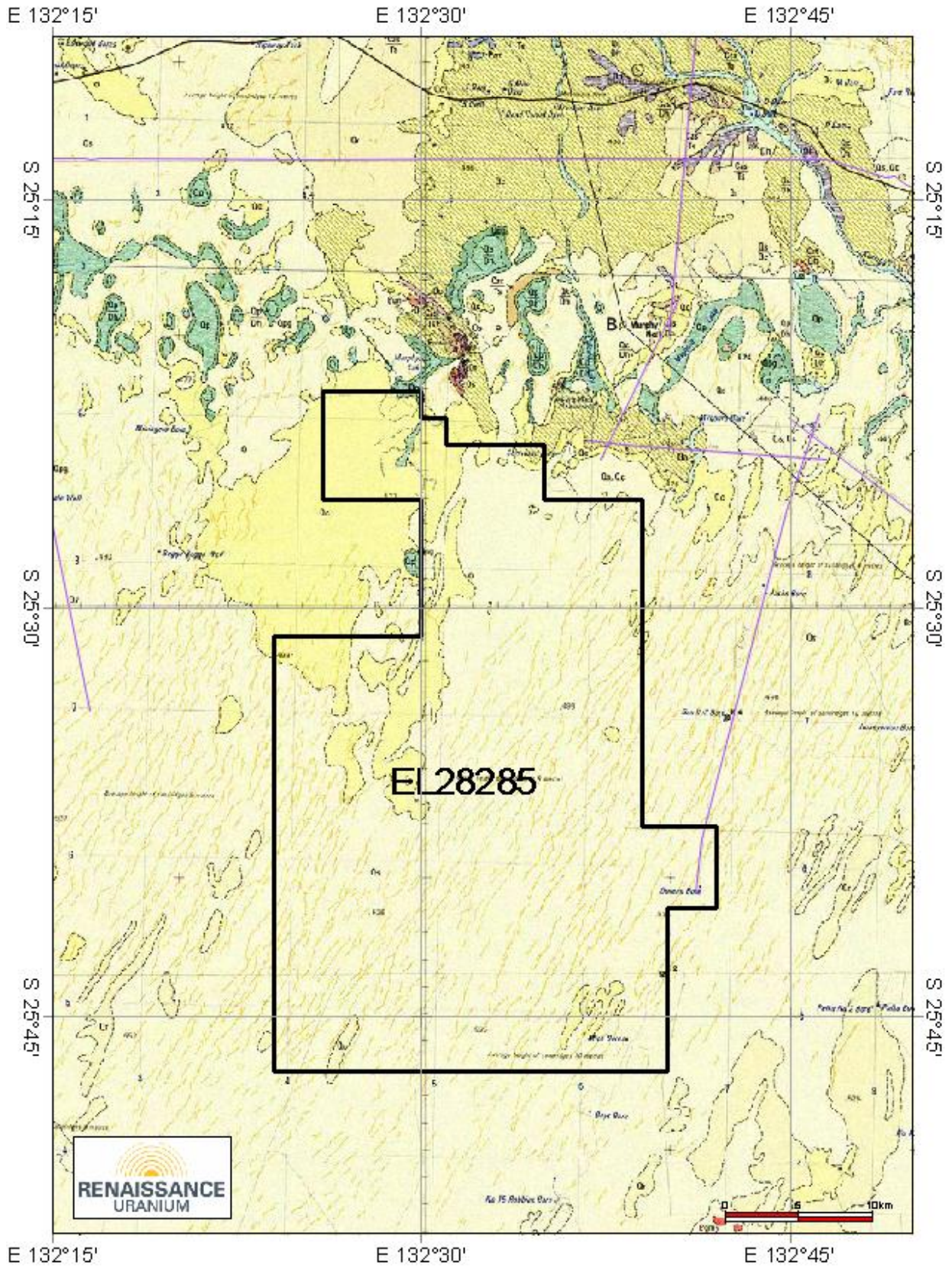


Figure 3: EL 28285 250K Regional Geology (taken from NTGS website).



## 2.2. EXPLORATION HISTORY

### 2.2.1. Previous Exploration by Other Company

Uranerz Australia Pty Ltd (UAL) initiated uranium exploration in the Amadeus Basin in 1972, targeting sandstone-hosted deposits similar to those known in the western United States. Reconnaissance airborne radiometric surveys identified several small anomalies south of Alice Springs, near the northern margin of the Amadeus Basin about 100 km north of the current project. Scout drilling during 1973-74 discovered uranium mineralisation at Angela and Pamela prospects, which were delineated by detailed drilling during 1975-79, operating under a joint venture between UAL and MIM Exploration.

The current project area lies in the southern Amadeus Basin, 100 km to the south of the Angela and Pamela uranium prospects. Here, minerals exploration has been active since 1988 and mainly involved evaluation of evaporate deposits. There was one uranium exploration and also a search for diamond and/or base metals.

Nova Energy Ltd. (Nova) explored for uranium in the northern and eastern parts of the current Project area between 2006 and 2009. Nova's focus was to identify redox related uranium mineralisation in sediments of the Upper Devonian Finke Group. These sediments are considered similar to those hosting the Pamela and Angela uranium deposits, which lie in the Amadeus Basin. Initial work included acquisition of available data and interpretation of Landsat satellite imagery. A helicopter assisted geological reconnaissance and scintillometer prospecting survey followed. Nova concluded that the margin of the Amadeus basin may contain more fluvial or deltaic facies, which they considered more prospective for sediment hosted uranium deposits associated with redox boundaries.

Toro Energy Ltd (Toro) acquired Nova in 2007. Toro proposed to carry out a drilling program aimed at testing the redox boundaries in the sequence. However, Toro surrendered the licences when Idracowie Station denied access. Other exploration included a program by CRA Exploration Pty Ltd in 1991, searching for diamonds and base metals.

### 2.2.2. Previous Exploration by Kurilpa Uranium

This represents the first Annual Technical Report for EL 28285 after Kurilpa Uranium acquired the exploration licence on 4<sup>th</sup> April 2011. As a result no previous exploration by Kurilpa has been conducted.

### 2.3. EXPLORATION RATIONALE

The south-eastern Amadeus Basin is largely unexplored. Knowledge of subsurface geology is based on limited seismic data and the drilling results from only six wells. Magee-1, the last exploration well in the basin and drilled in 1992, intersected a thin helium rich gas pay zone and tested a petroleum system in the Neoproterozoic Heavitree Quartzite. Aeromagnetic data and SEEBASE TM depth to basement modelling provide an understanding of the basement structure, which is characterised by major faults and basement highs.

Amadeus Project has potential for structurally controlled, sediment hosted uranium deposits. Seismic data show potential for focusing deep basinal brines, derived from thick Neoproterozoic evaporates and known to be effective in remobilisation of uranium, into high-level reduced ore-forming traps, along structurally reactivated conduits such as faults and salt domes. Gamma logs from the gas exploration hole Magee-1 returned elevated radiogenic signatures from Heavitree and Stairway Sandstone units. This hole also profiles evidence of remobilisation of uranium from radiogenic basement into the overlying Neoproterozoic, Palaeozoic and younger sedimentary cover units.

A thin regolith profile and overlying transported materials tend to mask radiometric signatures and restrict geochemical dispersion halos, except close to bedrock mineralisation. Kurilpa Uranium will draw on experiences from exploration in other large basins to provide guideline for targeting structural traps beneath the masking cover.

### 3. EXPLORATION INDEX MAP

As no on-ground work has yet been commenced the entire tenement has been under review hence no specific index map can be compiled.

### 4. GEOLOGICAL ACTIVITIES AND OFFICE STUDIES

No on-ground exploration activities were completed in the current reporting period. Internal desktop based assessment of historic geological, geophysical and seismic when available data, looking for structural and stratigraphic traps for uranium associated with helium gas was conducted.

Searches of public domain data has failed to provide any primary leads of potential helium related uranium exploration in particular the lack of seismic data has made this avenue of research more difficult to pursue. As a result in the upcoming reporting period focus may be directed towards the southern part of the tenement within the Mesoproterozoic Musgrave Province for base and precious metals.

As a result of a tsunami-induced accident at Japan's Fukushima Daiichi nuclear power plant in March 2011, uranium prices have stagnated and there is still some uncertainty over the required timing for newly discovered uranium deposits. We have factored this into our programs in prioritising our drill targets. Our work over the past year has consequentially not been limited to pure-play uranium exploration with direction towards our tenement portfolio that includes opportunities for gold and IOCGU prospects, as well as uranium. Strong activity for uranium only exploration will be somewhat controlled by the increased price and enthusiasm for the uranium sector.

## 5. CONCLUSIONS AND RECOMMENDATIONS

No on-ground exploration was conducted in the current reporting period. Desktop based assessment of historic data looking for structural and stratigraphic traps for uranium associated with helium gas was conducted. These assessments have failed to provide any primary leads of potential helium related uranium exploration within EL 28285, particularly the lack of seismic data making this avenue of research more difficult to pursue.

Furthermore, our strategic focus on prospects with potential for near-term economic discoveries is especially relevant due to the volatility experienced in the uranium sector over the past year. As a result of a tsunami-induced accident at Japan's Fukushima Daiichi nuclear power plant in March 2011, there has been understandable concern regarding the safety of nuclear power generation, and this has resulted in the exit from our sector of some short-term investors. Whilst near term supply and demand balance has inevitably been affected, we remain of the view that new uranium sources will be needed to meet global demand. Whilst we await the decisions of the Japanese Government on the future of a number of the temporarily shut down generators, there is still some uncertainty over the required timing for newly discovered uranium deposits, and we have factored this into our programs in prioritising our exploration programmes.

Consequently, our work over the past year has not been limited to pure-play uranium exploration with direction towards our tenement portfolio that includes opportunities for gold and IOCGU prospects, as well as uranium. Strong activity for uranium only exploration will be somewhat controlled by the increased price and enthusiasm for the uranium sector.

## 6. REFERENCES

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