NAMIBIAN PROSPECTIVITY ANALYSIS
IDENTIFIES MULTIPLE TARGETS

KEY POINTS

- Fifteen alaskite-type targets have been identified in DYL’s recently completed Prospectivity Analysis with six assigned for high priority follow-up.

- The targets are prioritised based on degree of outcrop, radiometric response and extent of previous drilling.

- In the analysis three layers were used to score and then rank prospectivity: proximity to dome structures, proximity to marble and occurrence in remanently magnetised domains.

- This is the first time that a prospectivity analysis has combined these specific layers in one map to identify alaskite targets in Namibia.

- The area of interest for the analysis was extended beyond DYL’s tenements to test the targeting methodology against the location of known deposits – these scored highly in the analysis, giving increased confidence in the results.

Advanced stage uranium explorer Deep Yellow Limited (ASX: DYL) is pleased to announce the completion of a Prospectivity Analysis on its Namibian tenements that delivered outstanding results. The study, which focussed on hard rock alaskite-type deposits (such as Rössing and Husab) commenced earlier this year and was aimed at generating new targets for its wholly-owned Namibian subsidiary Reptile Uranium Namibia Ltd (RUN). Palaeochannel, calcrete-hosted or “Red Sands” type deposits were not considered.

The area of interest covered a substantial part of the Erongo uranium region and exceeded the area covered by RUN’s Exclusive Prospecting Licences (EPLs) in order to test the targeting methodology against the location of known deposits (of which there are many outside RUN’s EPLs). Several spatial datasets were used by presenting them in grid form and assigning prospectivity values to the majority of the 100m cells within each grid.

“These results far exceeded our expectations and have reinforced our long held belief that the best is yet to come from RUN’s EPLs” said Deep Yellow Managing Director Greg Cochran. “Our new team in Namibia have applied the latest technology to take a significant step forward in identifying the next generation of high grade alaskite targets – we set out to identify at least 10 and we ended up with 15 of which 6 are high priorities. We are already in the process of ground truthing some of these by conducting ground-radiometric surveys.”

Ends
Background Information on Prospectivity Analysis

Introduction

The exercise was aimed at generating new hard rock alaskite-type targets on RUN’s EPLs and used deposits such as Rössing and Husab as benchmarks to test the effectiveness of the methodology. Palaeochannel, calcrete-hosted or “Red Sands” type deposits were not considered in the analysis.

The area of interest covered a substantial part of the Erongo uranium region and exceeded the area covered by RUN’s EPLs to test the targeting methodology against the location of known deposits (of which many are outside RUN’s EPLs such as Rössing and Husab).

Prospectivity mapping requires several spatial datasets that embody key aspects of a genetic or process-based and/or descriptive ore deposit model. Importantly, the datasets must be able to be presented in a grid form and it should be possible to assign the majority of cells with a prospectivity value.

Data layers were compiled into a geodatabase and metadata for each layer was included within the dataset. Grid datasets used a 100m cell size.

Input Layers

Remanently Magnetised Rock Units

It was observed over 20 years ago that uraniferous alaskites are associated with remanently magnetised rocks (Corner, 1983). Consultants Resource Potentials of Perth were asked to create a series of images and to extract as a vector file areas affected by remanence (Figure 1).

A straight-line (‘Euclidian’) distance grid was calculated from the vector file supplied by Resource Potentials (Figure 1). This grid was reclassified such that all cells falling within the remanent polygons were assigned high values and those within a distance of 500m of the polygon boundaries a lower value. All other cells were given a value of 0.

It was found that the most significant hard-rock uranium deposits in the region fall within the pink (high prospectivity) region shown in Figure 2 with the notable exception being RUN’s INCA deposit.

Proximity to Domes

Kinnaird & Nex (2007) documented the association of uraniferous leucogranites and basement- or Damaran-cored domes. One reason for this appears to be that the dome “boundary” is defined by a high strain zone or zones that have been influential in controlling the disposition of late, brittle emplacement of uraniferous alaskite (Basson A, Greenway G., 2004). Basson & Greenway (2004) describe the relationship between uranium and deformation thus:

“Late-kinematic deformation involved a rejuvenation of the stresses that acted from ca. 600 to 550 Ma. This deformation overlapped with uranium-enriched granite intrusion at 510 ± 3 Ma. Such late-kinematic, north–south transpression, which persisted into the post-kinematic cooling phase until at least 478± 4 Ma, was synchronous with left-lateral displacement along NNE-trending (“Welwitschia Trend”) shears in the vicinity of Rössing. Late kinematic deformation, causing block rotation, overlying dome rotation and interaction of the more units of the Khan Formation with the Rössing Formation in the dome rim was pivotal in the localisation of uranium-enriched granites within a highly fractured, high-strain zone that was also the site of prolonged/high fluid flux.”
Multiple alaskite targets identified

The dome boundaries used below were extracted from mapping by the Geological Survey of Namibia and coded according to whether they were basement or Damaran metasediment-cored. Euclidian distance was calculated from the dome boundaries (Figure 3) and distance reclassified into a prospectivity value.

Nearly all the significant uranium deposits of the region fell within the high score area but once again INCA was the only significant exception.

Figure 1: Magnetic (TMI) image of the Erongo region of Namibia. The white cross-hatching shows the areas interpreted to be due to remanent magnetism (Owers, 2013). Red circles – hard-rock uranium.

Figure 2: Grid showing areas subject to remanent magnetism coded 10, with 500m buffer coded 5 (to account for uncertainty in the position of the boundary.)

Figure 3: Multi-ring buffers around domes. Each value represents a 500m increment to a maximum of 5km.
**Proximity to Marble**

Many geologists working in the Erongo region have noted the proximity between uraniferous alaskite and marble, including those previously employed at RUN. Indeed, proximity to marble has been a major factor in RUN’s targeting strategy and the rationale for this is set out in a paper by Corvino & Pretorius (2013) and illustrated in Figure 4.

![Figure 4: Alaskite uranium model after Adrian Corvino & Pretorius 2013](image)

For the purposes of the exercise, a marble occurrence layer was developed by combining Geological Survey of Namibia mapping from the Walvis Bay and Kuiseb 1:250,000 sheets. This was supplemented by interpretation of outcropping marble based on HyMap imagery.

![Figure 5: Extent of marbles, from Geological Survey of Namibia, and interpretation of HyMap imagery.](image)

![Figure 6: Euclidean distance to marble reclassified. Distance of 0 – 500m from marble reclassified to 10, 500 – 1km to 5 and >1km to 0.](image)
Multiple alaskite targets identified

Euclidian distance was calculated from the marble boundaries (Figure 5) and distance reclassified to a prospectivity value (Figure 6).

Most significant uranium deposits occur within the pink (proximal) cells in Figure 7, including INCA. Exceptions are some of the Etango deposits (Anomaly A, Hyena and Ondjamba) which are not spatially associated with marble.

Prospectivity Maps

Figure 7 shows a prospectivity map which is based on the three critical layers namely: proximity to dome, proximity to marble and remanent magnetisation. The major deposits score well (> 20 out of 30) with the exception of INCA which only scored 10.

Figure 7: Prospectivity Map based on three basic layers
Multiple alaskite targets identified

Targets

Based on the prospectivity map shown in Figure 7, and a threshold score of 22, there are 15 targets within RUN’s EPLs. Targets have been prioritised based on degree of outcrop, radiometric response and extent of previous drilling. Each target has been rated 1, 2 or 3, with 1 representing the highest priority. In areas with abundant outcrop, for example, the probability of a substantial resource occurring near surface is low in the absence of a radiometric uranium response. Six of the fifteen targets were assigned high priority for follow-up.

References


For further information regarding this announcement, contact:
Greg Cochran Phone: +61 8 9286 6999
Managing Director Email: info@deepyellow.com.au

For further information on the Company and its projects - visit the website at www.deepyellow.com.au

About Deep Yellow Limited

Deep Yellow Limited is an ASX-listed, Namibian-focussed advanced stage uranium exploration company. It also has a listing on the Namibian Stock Exchange.

Deep Yellow’s operations in Namibia are conducted by its 100% owned subsidiary Reptile Uranium Namibia (Pty) Ltd. Its flagship is the high grade alaskite Omahola Project where mining studies are being conducted and the next phase of metallurgical testwork is being planned as inputs into a Pre-Feasibility Study to be completed in 2014. It is also evaluating a stand-alone project for its Tubas Sand uranium deposit utilising physical beneficiation techniques it successfully tested in 2011.

In Australia the Company owns the Napperby Uranium Project and numerous exploration tenements in the Northern Territory and in the Mount Isa District in Queensland.
Multiple alaskite targets identified

Location map of RUN’s wholly owned and joint venture EPLs.