# **A-Cap Resources Limited**

ACN 104 028 542

TO: THE STOCK EXCHANGE OF NEWCASTLE LIMITED

DATE: 9<sup>th</sup> November 2005

#### URANIUM AND DIAMOND TENEMENTS GRANTED IN BOTSWANA

The Board of A-Cap Resources Limited ("A-Cap") is pleased to announce that it has been granted five (5) new prospecting licences in Botswana for exploration for uranium with an existing licence in Botswana also being extended to cover exploration for uranium . The six (6) prospecting licences cover a total of 4410km². Additionally A-Cap has been granted one (1) new licence in Botswana over 796km² for diamond exploration.

The new and amended licences widen the Company's existing portfolio of nickel and gold prospects to include uranium and diamonds and covering a total area of approximately 8020km<sup>2</sup>.

# **Highlights**

- The new licences cover 4410km² of historical uranium areas in Botswana explored by major companies over the past 30 years.
- A-Cap will focus on becoming a major uranium explorer in Botswana.
- Previous uranium calcrete deposits have been reported at shallow depths on the newly granted tenements.
- A single diamond of 0.25 carats has been recovered on the tenement granted for diamond exploration.

## Uranium

Following a detailed review of past exploration for uranium in Botswana, the Company has been granted prospecting licences over many areas previously reported to the Botswanan Government as hosting uranium anomalies or deposits.

Of these, the Mokobaesi deposit near Serule which lies within the Company's Letlhakane tenement is considered by the Board to be highly prospective for uranium group elements. Mokobaesi is the most promising known uraniferous deposit in Botswana with extensive data available from work carried out in the 1970's and 80's.

The Mokobaesi deposit has previously been estimated as containing 1.75 million tonnes of  $U_3O_8$  mineralisation at a grade of 0.069% calculated from data collected from 22 pits to a depth of 3 metres on 300 metre centres. The highest maximum value from any single pit was recorded as being 0.173%  $U_3O_8$ . Other indicated values within the area of the Company's new licences for uranium group elements include pit samples of 0.16%  $U_3O_8$  reported within an anomaly east of the Serule Railway Station and up to 0.133%  $U_3O_8$  in soil samples near Chadum in one of the Company's licences in north-west Botswana.

The studies referred to above were carried out prior to the JORC code coming into effect and are not represented as a resource within the meaning of JORC, but solely as an area and tonnage of mineralisation.

The Mokobaesi uranium prospect was detected by exploration carried out over 30 years by Falconbridge, BCL, Union Carbide, Anglo American Corporation, Urangesellschaft, Esso Minerals, Cape Asbestos, Metal and Mining Agency of Japan, and Shell Coal.

Far more work has been conducted on Mokobaesi than any other uranium deposit in Botswana, leading A-Cap to apply for an expansion of the minerals covered by its existing Letlhakane tenement to cover uranium group elements and the Mokobaesi deposit which falls within that tenement.

#### **Diamonds**

The Company has been granted an exploration licence over an area believed prospective for diamonds after an assessment by its consulting geologist of an area in the Magogaphate area considered prospective for diamonds based on the presence of minerals which are indicator minerals for diamonds (including pyrope garnets) and the discovery of a single diamond weighing 0.25 carats.

## **Details of new and amended Tenements**

Tenement Name	<u>Ownership</u>	Size (km²)
Uranium, Base metals and gold		
MEA	Cardia Mining Botswana (Pty) Ltd (100%)	650.6
SUA	Cardia Mining Botswana (Pty) Ltd (100%)	971.2
NORTH URAY	Cardia Mining Botswana (Pty) Ltd (100%)	765.7
SOUTH URAY	Cardia Mining Botswana (Pty) Ltd (100%)	593.6
BOLAU	Cardia Mining Botswana (Pty) Ltd (100%)	429.2
LETLHAKANE	Cardia Mining Botswana (Pty) Ltd (100%)	1000.0
<u>Diamonds</u>	(1 ty) Ltd (10070)	4410.3
BOBONONG	A-Cap Resources Ltd	<u>795.9</u>
	(100%)	<u>5206.2</u>

#### **URANIUM PROSPECTS**

Prior exploration by Falconbridge and by various other companies, has identified a number of promising uraniferous deposits or occurrences within Botswana and, following assessment of that work, the Company has been granted licences for uranium group elements over many reported uranium anomalies and deposits within Botswana.

Only the deposits or anomalies in which the Company is primarily interested are commented on below.

## **Mokobaesi and Serule Areas**

The Letlhakane tenement covers an area that Falconbridge previously held which included the Mokobaesi deposit near Serule.

Prior exploration on the Letlhakane tenement, conducted by various parties including Falconbridge and Metal Mining Agency of Japan, reported known uranium occurrences in the area comprising the Mokobaesi cluster, the Serule cluster and Shell Coal borehole #7.

The Mokobaesi deposit, which is in the form of uranium ochre in calcrete, is located approximately 8 kilometres north of Serule village and approximately 5 kilometres west of the main Gaborone-Francistown road.

BCL initially identified the Mokobaesi deposit and carried out detailed ground work over an area of some 1,100 by 500 metres. BCL dug a total of 22 pits to a depth of 3 metres. Seven of these pits generated results greater than 0.05% U<sub>3</sub>0<sub>8</sub> and led to BCL estimating uraniferous mineralisation of 1.75 million tonnes at 0.069% U<sub>3</sub>0<sub>8</sub> with a maximum sample value from any single pit being 0.173% (1,730 ppm U<sub>3</sub>0<sub>8</sub>). This is not a JORC Compliant figure under current requirements and does not represent a resource within the meaning of JORC. Following this work, BCL drilled percussion drillholes ranging from 21 to 37 metres in depth. Two of these intersected radioactive calcrete, and three intersected radioactive "sandstone". A single diamond drill hole (MB1) was drilled adjacent to one of the percussion holes and intersected radioactive calcrete between 4 and 5 metres depth and radioactive siltstone between 7.5 and 8 metres depth.

Falconbridge carried out an airborne spectrometer survey, flying at 70 metres elevation and 500 metre line spacing. The survey generated 7 main targets, dominated by the Mokobaesi cluster which has 7 separate anomalies and where the uranium channel values were up to 4.5 times local background. The Serule cluster in the south of the licence contained another 4 anomalies, and there are further clusters of anomalies in the Majojo Cluster and Basement South cluster.

The survey generated 7 main targets dominated by the Mokobaesi cluster which has 7 separated anomalies and where the uranium channel anomaly is up to 4.5 times the local background and twice the magnitude of anomalies at the Mokobaesi cluster. The Serule cluster in the south of the licence contained another 4 anomalies and the West Foley cluster in the north of the licence contained an additional 3 anomalies.

The above anomalies are discussed below.

The Mokobaesi cluster occurs mainly on the north bank of the Mokobaesi River, and comprises secondary uranium mineralisation in calcrete. The calcrete is covered by between 0.75 - 1.25 metres of soil. The uranium mineral observed is a canary-yellow ochre, presenting as friable coatings and granular aggregates which appear concentrated on diffuse sub-horizontal bands at various levels within the calcrete layer. The mineral was identified by Falconbridge as an unnamed lead uranium vanadate hydrate. It can be noted that the most important uranium mineral in calcreted drainage deposits is the uranium vanadium hydrate, carnotite.

Falconbridge completed a total of 101 pits at Mokobaesi and conducted 399 assays with the highest assay value being 789 ppm  $U_3O_8$  (0.0789%) over 0.5m metre sample intervals.

It was noted that the best uranium values were found where the calcrete was greater than 1 metre thick.

Initial uranium exploration utilising radon gas surveys were conducted over all the uranium anomaly clusters using cellulose nitrate film to count "track etching" over a 30 day period. Exceptionally high values were noted in the north-east of the Mokobaesi Cluster and it was inferred that this may be due to a uranium source below the calcrete: possibly uranium in sandstone. Later surveys were conducted using an electronic alphameter, requiring a 3 day collection period. This was reported to correlate well with the previous Track Etch surveys.

Falconbridge assessment of the Mokabaesi deposit led it to calculate a deposit of uraniferous mineralisation of 1.683 million tonnes at a grade of 315 ppm U<sub>3</sub>0<sub>8</sub>, at a block cut-off (blocks of 100x100, or 100x200 metres) of 200 ppm U<sub>3</sub>0<sub>8</sub>. Again, this is not a JORC compliant figure and does not represent a resource within meaning of JORC.

Metallurgical test work carried out subsequently by the Metal and Mining Agency of Japan on a bulk sample Mokobaesi ore graded between 300 and 350 ppm U<sub>3</sub>0<sub>8</sub>. The treatment process included leaching [using Na2CO3,NaHCO3/KMnO4 at 80 degrees Celsius for 2 hours] resulted in a 90% recovery rate which is encouraging as to prospective recoverability.

The work carried out in the Mokobaesi and Serule areas indicates a high level of prospectivity for these areas and merits a detailed re-evaluation of the work carried out by, in particular, BCL and Falconbridge.

The mudstone underlaying the calcrete has low grade uranium mineralisation, and the Company's view is that this probably formed in a closed basin and that it is probably the precursor for the secondary mineralisation concentrated in the calcrete. It is possible that the primary source of the uranium may be the granites and gneisses of the Limpopo Mobile Belt, a substantive part of which are within the Company's Letlhakane tenement and in the newly granted Bolau tenement.

## **Sua and Mea Tenements**

Due to limitations in the size of new Prospecting Licences, two new licences were applied for and granted in order to cover as much of the area as Falconbridge's previous licence held until 1976.

Within the area of the newly granted tenements, and within the area of it's prior licence, Falconbridge flew an airborne radiometric survey of a total of 5,096kms. This was flown in a north-south direction, with line spacing of 500 metres, and at an elevation of 70 metres. The survey was conducted by Aircraft Operating Company (AOC) in a DC3 aircraft, and used a 4 channel Geometrics 3001 gamma ray spectrometer.

Following that survey, a list of uranium targets was compiled for ground follow-up. It was noted that the Carbonaceous Tlapana Mudstone (part of the Ecca series of Karoo sediments) appeared to have a strong association with airborne radiometric anomalies in areas with thin surface cover.

A total of 11 anomalies (or "areas" as referred to by Falconbridge) were selected for ground follow-up, but only two anomalies appear to have actually been examined. Area #1 in the south was apparently close to an anomaly identified earlier by BCL. Initially interpreted to have the highest near-surface uranium mineralisation, unspecified ground work reported only moderately radioactive ferruginous sandstone and siltstone, and apparently mainly thorium mineralisation. It does not appear that any detailed work was done at the anomaly.

The area of the **Sua** tenement covers much of the central part of Falconbridge's previous licence and incorporates an occurrence of the uranium mineral torbernite reported by BCL. Despite having identified a number of anomalies in this area, and with reported outcropping of uranium mineralisation, Falconbridge did no ground follow-up of the anomalies.

The area of the **Mea** tenement comprises much of the south end of Falconbridge's previous licence containing a number of uninvestigated radiometric anomalies. Falconbridge did investigate the southern most anomaly (Anomaly #1), and ascribed it to moderately radioactive ferruginous sandstone and siltstone, but with thorium as the radioactive mineral, and therefore of no interest. However, no details of the investigation were reported, and it is possible that the investigation did not properly evaluate the anomaly.

Anomaly 6 reported uranium mineral torbernite and was located between Tswadibe Pan and the Main Sua Pan south of the Sua Pit. Further anomalies are reported along the edge of Sua Pan meriting additional exploration.

Targets within the Sua and Mea tenements comprise uraniferous calcrete deposits along paleao-river channels, as well as potential deposits in Carbonaceous Tlapana Mudstone (CTM) which is known to be anomalous in uranium. The high level of Total Dissolved

Solids (TDS) of waters in the Makgadikgadi basin are considered to be favourable to the precipitation of uranium group minerals: - carnotite and tobernite having been previously recorded as occurring on the eastern side of the Sua Pan, within the Mea tenement. In addition, faulting of the Karoo sediments (including the Carbonaceous Tlapana Mudstone), may provide enhanced conduits for uraniferous mineralising fluids.

# **Bolau Tenement**

This tenement comprises ground immediately to the west and south of Letlhakane and will cover possible mineralisation both in the Karoo sediments, "basement" gneisses, and surficial deposits that fell outside the limit of the original Falconbridge airborne survey, which appears to have "open" anomalies along the edge of the survey area.

# **North Uray Tenement**

The area of the North Uray tenement covers the Chadum palaeo-drainage located in the north-west of Botswana, close to the Namibian border. The previously defined Chadum anomaly is approximately 1 kilometre long (east to west along the drainage channel) and has uranium values in the soil up to 1,328 ppm (0.1328%) U<sub>3</sub>0<sub>8</sub> (with 42.6% carbon). These values are irregular and previously thought to be of limited extent in soils. Drilling has been conducted by a previous explorer, which gave disappointing results in terms of mineralisation in underlying calcretes, but further work is warranted. There is a strong Landsat satellite image lineation which trends SSE and appears to link the Chadum anomaly and the Kkhandum anomaly. This may reflect a major structural dislocation, which, as it appears to truncate the dune field, would appear to have been geologically active in recent times. This structure may provide a conduit for U<sub>3</sub>0<sub>8</sub> bearing fluids, and therefore have significance in terms of uranium mineralisation.

## **South Uray Tenement**

The area of the South Uray tenement covers the Kkhandum palaeo-drainage in the extreme north west of Botswana, close to the Namibian border, and some 50kms south of the Chadum drainage and adjoins the North Uray tenement.

The previously defined anomaly is some 4 miles long, and values of up to 0.0388% U<sub>3</sub>O<sub>8</sub> in black mud at 4-5 feet depth with 20% free carbon, and 0.0072% ppm U<sub>3</sub>O<sub>8</sub> in soil have been recorded. The tenement includes the southern end of the apparent geological structure between the Chadum and Kkhandum valleys.

# **Conclusion**

Generally the area of the Company's tenements is highly under-explored and merits further exploration. Much of this work can likely be carried out by review of existing data, including archived drill core, percussion drill chips and other data from coal and ground water exploration over the past 30 years. This data can then be used to generate an appropriate exploration program.

#### **DIAMOND PROSPECTS**

The diamond potential of Southern Africa has been recognised for over 100 years, but it is only within the last 25 years or so that significant discoveries have been made in the Limpopo Belt. Prior to this, the relatively highly deformed "mobile belt" was not considered amenable to kimberlite or other diamond bearing intrusions. Previous geological theories predicted diamondiferous kimberlites would only occur in ancient geologically stable "craton" areas – this has now been proven not to be true.

The first diamonds to have been discovered in Botswana were found in the Motloutse River near Foley village, some 70kms upstream from Magogaphate and the Company's newly granted "Bobonong" PL. Tracking of a palaeo-drainage westwards led to the eventual discovery of the Orapa kimberlite field. The lack of associated "indicator" minerals (in relation to a discovery of 3 diamonds which precipitated the discovery) supports the theory that the diamonds had been transported a considerable distance, as diamonds being the hardest mineral known will resist abrasion far more than less hard minerals, which will be broken up during transport.

The Orapa diamond mine was discovered shortly after Botswana independence from the UK in 1966. Orapa is one of the biggest diamond mines in the world, and the other major Botswana diamond mine, Jwaneng, is the worlds richest diamond mine. Diamond mining now comprises some 75% of Botswana's export income – mined by the Debswana joint venture between the Botswana Government and De Beers.

The report by the Company's consultant geologist evaluates the regional potential of the Magogaphate area of the Limpopo Belt for diamonds, and reports on reconnaissance sampling carried out in that area.

Kimberlites in the Venetia cluster in the South African portion of the Limpopo Mobile Belt differ from other kimberlites in terms of the characteristics of their "indicator" minerals. These indicator minerals were followed up to discover the Venetia deposit, about 130 kilometres from the Magogaphate area. Apart from very sparse pyrope garnet the pipes are characterised by abundant non-kimberlitic spinel.

The Company has carried out reconnaissance sampling in the Magogaphate area and "Bobonong" tenement covers an area immediately SSE of the Magogaphate area, in which a diamond and pyrope garnets were found by Michaelides and Baxter Brown in exploration work carried out by them. Indicator minerals were also reported to have been found in the area by African Selection Trust Exploration (ASTE) in 1960.

The diamond discovered by Michaelides and Baxter Brown was quite large, weighing ½ carat, and was apparently iron stained. The discovery was not apparently pursued with any vigour. The pyrope garnets were thought to have come from calcreted gravels in the headwaters of the Madikulube River, about 9 kilometres to the SSE of Bobonong village.

The quarter carat diamond found may or may not be of local derivation, although kimberlitic minerals were recovered adjacent to the diamond.

Further alluvial diamonds found on the Limpopo River (which forms the border with South Africa to the east and south east of Bobonong), in a high level channel deposit, were associated with pink mylonitic cobbles in the host gravels. These are interpreted to be potentially derived from the Magogaphate Shear Zone over which the Company holds various tenements.

Importantly, when De Beers first explored the area for kimberlites, they focussed on discovery of much larger features of interest than the Company is focusing on, and may have been searching for an incorrect suite of indicator minerals. It is also noted that De Beers have changed their parameters for exploration and now explore for and mine smaller kimberlitic pipes of the kind that may be present within the area.

# Conclusions from previous diamond exploration are that:

- Diamonds are present in the general Magogaphate area,
- Indicators are present in the Bobonong area in the region of the Company's tenements,
- Local diamond sources, that may be near or within the Company's tenements, are indicated by prior exploration,
- Previously De Beers did not explore for small kimberlitic pipes or use current models for indicator minerals. De Beers now searches for, and mines, small pipes.

In summary a local source for diamonds in the Bobonong area is quite likely with a secondary source possible from the indicators, but likely to be close to the primary source.

The Company will conduct a detailed follow up in its newly granted Bobonong tenement, likely to include evaluation of the existing regional airborne EM and magnetic data, a satellite/aerial photographic study, and drainage/photo feature sampling.

## **SUMMARY**

The Company believes that the newly granted licences have significant potential and expand its total portfolio of tenements in Botswana to over 8000km<sup>2</sup>.

The Company now has licences to explore for gold and silver, nickel and other base metals such as lead and zinc, and uranium and diamonds.

PAT VOLPE Chairman