

September 2014

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### Company Information

ASX Code	AGE
Share Price	A\$0.042
Ord Shares	304.09m
Options	11.95m
<b>Market Cap (FD)</b>	<b>A\$13.27m</b>
Cash (June 2014)	A\$2.05m
Placement and Rights	A\$3.93m
Total Debt	A\$0m
<b>Enterprise Value</b>	<b>A\$7.29m</b>

### Directors

Non-Exec Chairman	John Main
CEO and Director	Rob Sowerby
Non-Exec Director	Peter McIntyre
Non-Exec Director	Andrew Vigar
Non-Exec Director	Paul Dickson

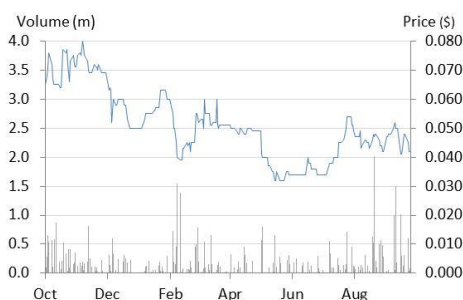
### Company Details

Address	Suite 3, 36 Agnes Street Fortitude Valley QLD 4006
Phone	+617 3852 4712
Web	www.alligatorenergy.com.au

### Top Shareholders

Macallum Group	18.36%
Macquarie Bank	5.75%
<b>Occasio Holdings P/L</b>	<b>2.64%</b>
Robert Sowerby	2.28%
Top 10	37.49%

### 1 Year Price Chart



Source: IRESS

# Alligator Energy (AGE)

*Quality team, ground and results*

*Recommendation: Speculative BUY*

### Key Points

- **Uranium exploration in the significantly underexplored Alligator River Uranium Province, however in which approximately 750Mlb of high grade  $U_3O_8$  resources have been identified to date**
- **Alligator has been focussed on the province since listing on the ASX in 2011, and has had good exploration success**
- **The Northern Territory is a proven uranium mining jurisdiction**
- **Focussed Board and Management with considerable junior resources and uranium experience**
- **Key cornerstone investor in the Macallum Group**
- **2014 exploration activities have commenced with airborne geophysics recently being flown, and drilling having commenced**
- **Results of 2014 airborne geophysics and drilling to date are very encouraging**
- **Steady news flow now expected**

*Alligator Energy continues to concentrate its activities on the world class Alligator River Uranium Province, the location of Australia's highest grade uranium deposits and mines, making it prime real estate for uranium exploration, with the area being underexplored, particularly areas under sandstone cover.*

*Alligator is managed by an experienced and committed team, and since listing in early 2011 has been focussed and has had significant exploration success to date in what can sometimes be a technically challenging exploration environment, whilst successfully weathering a very challenging investment climate for junior resources, and the uranium sector in particular. The Company has developed its exploration techniques to suit the geology.*

*Now backed by their cornerstone investor, the Macallum Group, Alligator is currently drill testing a number of high-priority prospects generated over the last few years. We consider that Alligator has a high chance for a significant find, and thus rate them as a SPECULATIVE BUY.*

### Company Overview

Alligator Energy Limited ("Alligator", ASX: AGE) is an Australian mineral exploration company whose sole focus is exploring for high grade unconformity related uranium mineralisation in the world class Alligator River Uranium Province of the Northern Territory, which hosts the high grade Ranger, Nabarlek and Jabiluka deposits.

Subsequent to listing on the ASX on February 1, 2011 after raising \$15 million in a fully subscribed IPO, the Company has defined a maiden JORC-compliant resource at the Caramal Prospect, whilst defining a number of high priority prospects. Work to date over the Company's projects has included over 20,000m of RC and diamond drilling.



## Investment Thesis

*Activities concentrated solely on the world class ARUP*

### Tenacious and Committed Explorers

Since listing in early 2011 Alligator has concentrated activities solely on the Alligator River Uranium Province ("ARUP"), despite the investment climate being less than ideal for uranium explorers – Alligator is one of the few ASX listed junior explorers now solely exploring for uranium in Australia.

Parts of the Company's holdings were acquired through a competitive tender from Cameco Australia Pty Ltd, a subsidiary of the major Canadian uranium miner Cameco.

The Company's activities are focussed on prospects that they believe have the potential for a minimum contained 100 Mlb of  $U_3O_8$ , with minimum intersections of 5m%  $U_3O_8$ .

### Focussed on the World Class Alligator River Uranium Province

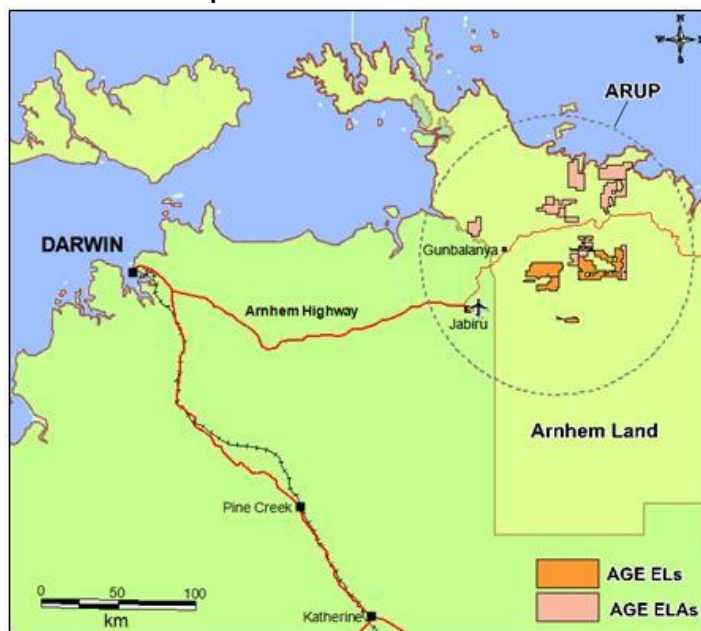
*The ARUP has an endowment of over 750Mlb of  $U_3O_8$*

The ARUP is recognised as a world class uranium province, with an endowment (current and mined resources) of approximately 750Mlbs of uranium at a grade of around 0.3 to 0.4%  $U_3O_8$ . Deposits include Ranger, Nabarlek and Jabiluka, with a combined total of approximately 250Mlbs of  $U_3O_8$  being extracted from Ranger to date and historically from Nabarlek.

*The target is unconformity related uranium mineralisation, similar to that at Ranger, and also deposits in the Athabasca Basin of Canada*

The mineralisation style is unconformity related, noted for high grades and relatively simple metallurgy; similar, and second only to the Athabasca Basin deposits in Canada, including Cigar Lake (340Mlb  $U_3O_8$ ) and Macarthur River (589Mlb  $U_3O_8$ ). Since 1980 approximately 1Blb of  $U_3O_8$  has been discovered in the Athabasca Basin, under 200-700m of sandstone cover, with the province continuing to return high quality discoveries.

#### ARUP Location Map



Source: Alligator Energy

### Underexplored Province

*The ARUP, especially those areas under cover, is significantly underexplored*

Due to past Federal Government policies in relation to uranium mining, there was a long exploration hiatus throughout a large part of the 1980's and 1990's, with large areas of the ARUP having virtually no modern exploration carried out over them.



*Major discoveries to date have been outcropping*

The bulk of the historical exploration has been over the outcropping deformed Archaean/Lower Proterozoic units that unconformably underlie the flat lying Lower Proterozoic Kombolgie Sandstone. These areas have had the overlying units eroded, thus exposing the unconformity and associated mineralisation below the unconformity.

Major discoveries to date (including Ranger) have largely been outcropping near the edge of the sandstone, and hence at or close to the unconformity. There has been very little drilling underneath areas of Kombolgie Sandstone Cover, where we see significant potential for large discoveries.

### **Innovative Explorers**

*Collaboration with the CSIRO has led to the development of geophysical and geochemical exploration techniques considered suitable for the region*

Unlike the Athabasca Basin where EM is an excellent exploration tool (and has resulted in discoveries under up to 700m of cover), the highly resistive Kombolgie Sandstone and low graphite content of uranium mineralisation (also unlike the Athabasca Basin) means that traditional airborne EM techniques are not as effective in looking under cover in the ARUP.

Given this, Alligator has been looking at alternative exploration techniques, and has just completed an innovative application of airborne SAM/TFMMR (Sub-Audio Magnetism/Total Field Magnetometric Resistivity) survey, with preliminary results supporting the suitability of this method. Other techniques include looking at geochemical and alteration signatures and haloes in conjunction with the Commonwealth Industrial and Scientific Research Organisation ("CSIRO") and the presence of different isotopes (e.g. Ra226) in groundwater sampling from outflows from the unconformity to vector in on potential mineralisation under cover.

### **Considerable Exploration Success to Date**

*Alligator has had considerable exploration success to date*

Alligator has had significant exploration success to date, with a number of targets identified that now require further testing. These targets have largely been identified from pathfinders recognised in the basement rocks adjacent to the edge of the Kombolgie Sandstone.

In addition, at Caramal, an initial JORC-compliant resource (940,000t @ 0.31% U<sub>3</sub>O<sub>8</sub>) has been defined following drilling out of a historic uranium occurrence.

### **Initial 2014 Exploration Results Encouraging**

*Intensive exploration programme planned for 2014, with drilling underway  
Preliminary drilling results indicate that the SAM method is a successful targeting tool*

Alligator has commenced an intensive exploration programme planned for the 2014 field season (which lasts from March to November), with a number of priority targets now being tested. Planned work includes ground geophysical surveying and drilling.

Work to date has outlined five priority targets in the Tin Camp Creek Project, as well as a number of lower priority prospects. Preliminary results from the recently flown SAM/MMR survey have indicated that the technique has been successful in identifying conductive units in the basement units; more clearly defining existing targets as well as identifying a number of other targets that warrant follow up.

Initial results from the 2014 drilling programme have been very encouraging, and support the use of the SAM/MMR method as a targeting tool. Two out of six RC holes at Orion North, four out of eight at NE Myra and six out of nine at Mintaka have intersected radiometrically anomalous intervals, associated with chlorite altered units. Relevant samples have been sent for assay, with results due in late September.

Programmes and budgets will be progressively revised as results come in.



## 2013 and 2014 Capital Raisings

The Company has managed, despite the lean times for explorers since listing, to keep itself adequately funded, with over 50% of all funds going into the ground.

*Current placement and rights issue to raise ~\$4 million before costs*

Alligator has recently completed a capitalraising through a placement and fully underwritten rights issue. The placement to sophisticated investors, announced on August 1, 2014, raised \$1.23m (before costs) through the issue of 30.75 million shares at \$0.04 per share.

The fully underwritten non-renounceable rights issue (1 for 3.5 at \$0.04/share), had an excellent initial takeup of 62% out of the \$2.7m raised (42 million shares), with the balance being pickup by the underwriter and sub-underwriters. The Macallum Group, who took up their full entitlement, will also be taking up a portion of the shortfall. Directors of Alligator have indicated various levels of participation.

*Placement to the Macallum Group, and a subsequent rights issue, raised \$1.85m in late 2013  
High take up of rights by existing shareholders*

The Macallum Group, who are experienced investors in the junior resources sector and take a long term positive view on uranium, initially took a placement of 23.3 million shares at \$0.04 (\$933k) in September 2013, as part of a placement and rights issue that raised approximately \$1.85 million before costs. Macallum also took up their full allotment in (and partially underwrote) the 1.5 for 10 rights issue following the placement, with this raising a further \$912k @ \$0.034/share.

Noticeably, approximately 53% of the pre-Macallum shareholders took up their rights in the 2013 raising – similar to the 2014 rights issue - we consider these excellent results in the current market and a positive reflection on the Company.

## Board Restructure

*Macallum's investment also included a board restructure*

As part of the Macallum's investment into Alligator, the board underwent a restructure, with Mr John Main (Chairman) and Mr Peter McIntyre (Non-Executive Director) being appointed to the board.

Both bring in extensive uranium experience in addition to that of the existing Alligator personnel.

## Comparable Companies

*No directly comparable ASX listed companies – the few dedicated uranium explorers and developers have different target styles.*

There are no direct comparable ASX listed companies. The few dedicated uranium exploration and development companies on the ASX (e.g. Toro Energy, Berkeley Resources, Energy Metals and Laramide Resources) hold generally different deposit styles, and of lower grade than that targeted in the ARUP. These all have EV/resource multiples in the order of \$1.50/lb U<sub>3</sub>O<sub>8</sub> or less.

Recent high grade discoveries in Canada have seen significant re-ratings of some TSX-listed companies, with high EV/lb valuations, even at the current low uranium prices. This does demonstrate the potential for significant value increase through discovery. We do note however the exceptional grades of these recent Canadian discoveries.

### **Fission Uranium Corporation (TSX.V: FCU), Patterson Lake South, Athabasca Basin**

*Recent high grade discoveries in Canada have led to significant increases in values to the respective companies*

This was originally a 50:50 JV between Fission and Alpha Minerals Inc., with Fission taking over Alpha in September 2013. The takeover valued Alpha's shares at C\$7.67, with the merged entity having a market capitalisation of C\$400 million.

This compares to a pre discovery price for Alpha of C\$0.17/share – a 45 x uplift in price.



Key points include:

- Drilling commenced in 2008, which defined geology and structural zones but with no significant uranium intersections
- First significant uranium was intersected in 2011, with a modest best intersection of 0.5m at 0.102%  $U_3O_8$
- Drilling in January 2013 intercepted high grade uranium
- Recently announced high grade intercepts of up to 28m @ 13.66%  $U_3O_8$
- Alpha share price went from C\$0.17 in November 2012 To C\$7.20 in August 2013 on the back of the discovery
- Analysts predict 30-40Mlb contained  $U_3O_8$  – this equates to an EV of up to C\$13/lb based on the analysts resource prediction

### ***NexGen Energy Corporation Limited (TSX.V: NXE), Arrow discovery, Athabasca Basin***

Arrow is a recent discovery by NexGen, with fourteen holes being drilled to date, all intersecting uranium mineralisation. This is located in their Rook 1 project area, which is adjacent to Fissions Patterson Lake South project. NexGen's CEO is Leigh Curyer, a past director of Alligator.

Initial results from the prospect, announced in January 2014, included 4m @ 330ppm  $U_3O_8$ . Subsequent results, as announced in June, include intersections of up to 10m @ 2.51%  $U_3O_8$ .

NexGen currently has a market capitalisation (undiluted) of C\$46 million, with a current share price of C\$0.27; however the price went from C\$0.22 to C\$0.53 in two days following announcements of uranium intersections in March 2014.

### **Risks**

As in any resources stock there are a number of risks involved.

- **Exploration Risk** – The key risk for Alligator is exploration risk, as with any junior explorer. However this is somewhat mitigated in Alligator's case by operating in a known uranium province and having exploration success to date, and having a team with extensive experience in uranium exploration
- **Price and Market Risk** – This is a risk, and although not directly affecting company cash flow, has an effect through weighing on investor confidence. This is particularly so with uranium, with this also being affected by political factors. Alligator has however successfully survived a continuous and coincident downturn in uranium prices and the junior exploration sector since its IPO, and has achieved exploration success despite the headwinds.
- **Permitting risk** – Although a considerable way down the track, permitting is a considerable risk in any potential mining operation, and particularly uranium mining. Alligator however has shown their ability to manage regulatory hurdles, with the agreements made with the various parties to allow them to carry out exploration in Arnhem Land. Also they are operating what has proved to be an exploration and operation friendly jurisdiction.

*Key risks include exploration, price and permitting*





## Project and Activities Review

### Introduction

*Alligator's tenements are located in the world class ARUP*

Alligator's current projects comprise six granted tenements and sixteen applications covering in excess of 1,300 km<sup>2</sup>. These are all located within the ARUP, and are highly prospective for unconformity related uranium mineralisation.

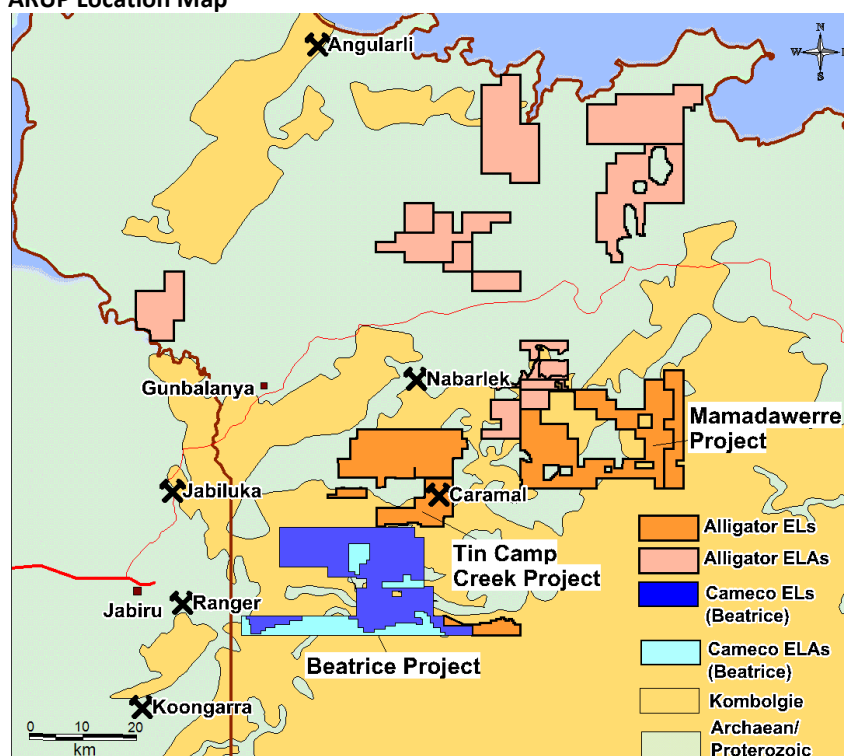
Holdings include the Tin Camp Creek Project, which was acquired from Cameco in 2010 through a competitive tender, the Mamadawerre JV with Cameco and a number of tenements and applications originally pegged by associates of Alligator.

Most recently the Company has signed a farm-in term sheet with Cameco, covering the Beatrice Project, which includes a number of two granted EL's and three ELA's covering 481km<sup>2</sup>.

*20,000m of drilling has been completed since the 2011 listing of Alligator*

Since listing in 2011, the Company has been very active, completing over 20,000m of RC and diamond drilling, as well as extensive ground based reconnaissance programmes.

### ARUP Location Map



Source: Alligator Energy

### Geology and Exploration

*The geology is dominated by Archaean to Lower Proterozoic basement, and the overlying Lower Proterozoic Kombolgie Sandstone*

The geology is dominated by two main units – deformed and strongly metamorphosed Archaean to Lower Proterozoic basement, and the unconformably flat lying Lower to Mid-Proterozoic Kombolgie Sandstone. The basement units include Archaean gneisses and Lower Proterozoic schists, including the highly prospective Lower Cahill Formation, which hosts the Ranger and Jabiluka deposits.

Uranium mineralisation is found near the top of the basement units at the unconformity with the Kombolgie Sandstone, with some minor mineralisation extending into the base of the Kombolgie Sandstone. Mineralisation can also extend for significant distances down dip in the basement units – in the case of Ranger mineralisation exists to at least 500m below the unconformity.

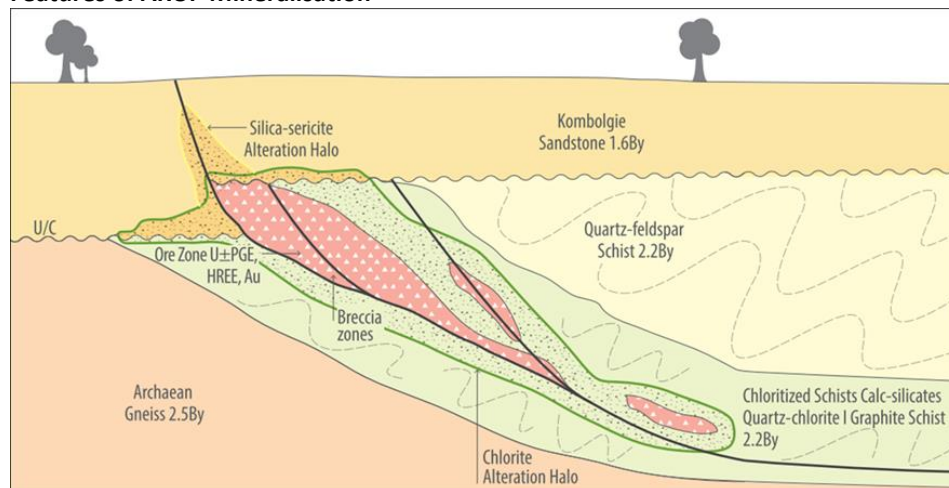


*Mineralisation is found near the unconformity, and is controlled by the intersection of faults and reactive basement lithologies*

Mineralisation is largely controlled by the intersection of structures with reactive units in the schists, particularly calc-silicate units of the Lower Cahill Formation, which is widely distributed through Alligator's holdings. The mineralisation is associated with strong chloritic alteration and breccia zones.

As noted previously, discoveries to date have been largely outcropping mineralisation where the Kombolgie Sandstone has been eroded – there has been little exploration looking for deposits under the Kombolgie cover.

#### Features of ARUP Mineralisation



Source: Alligator Energy

*Unlike the Athabasca Basin, EM is not a suitable exploration tool*

This has been due in large part to a long hiatus in exploration in Arnhem Land resulting from Federal Government policies in relation to uranium mining up until the late 1990's. Secondly, geological and geophysical characteristics of the area have proved EM to be an ineffective tool. These include very little to no graphite being associated with the mineralisation, and the Kombolgie Sandstone being very resistive, thus making it hard for electrical geophysical methods to see through to the basement.

Conversely, mineralisation in the Athabasca Basin is associated with high graphite contents (an excellent conductor), and cover that is no impediment to deep EM surveying.

*Alligator has been developing suitable exploration techniques in conjunction with the CSIRO*

Given the above Alligator has been looking at and developing alternative exploration technologies (some in co-operation with CSIRO) to look below the Kombolgie Sandstone, and has recently flown a SAM/TFMMR survey, for which the results have been received and are included on the figure below. These techniques will be used to improve targeting under sandstone cover with a view to maximising the chances of success and minimising the discovery cost.

#### Tin Camp Creek Project

*The flagship project is the Tin Camp Creek Project, acquired from Cameco under a competitive tender, and located 15km from Nabarlek*

The Company's key project is the Tin Camp Creek Project, which hosts the Caramal mineralisation and a number of other prospects that are being followed up in the current field season. Results to date have delineated five priority targets, with the SAM survey further defining these targets plus others requiring follow up. The Project comprises three Exploration Licences for 283 km<sup>2</sup>, and is located 15km south of the previously operated Nabarlek Mine.

Key exploration activities in 2014 include ground SAM/MMR geophysical surveying, lead isotope geochemistry and drilling, with drilling having commenced in early August.



## Priority Exploration Prospects

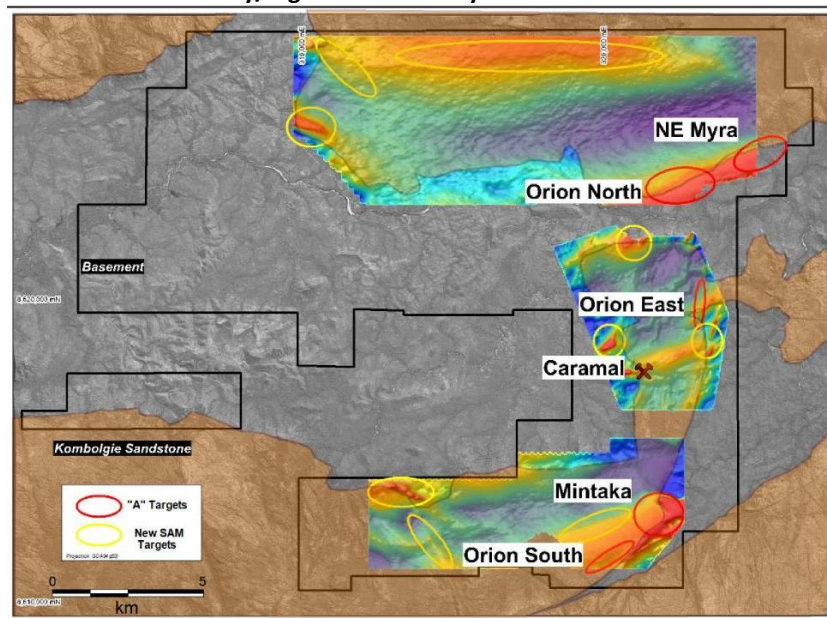
*Exploration in 2014 will be concentrated on five key prospects, and will include a large drilling element.*

*These are largely located along the interpreted Orion mineralising trend*

- Mintaka – Previous drilling has intersected intersections of >500ppm  $U_3O_8$ , in broader zones of >100ppm  $U_3O_8$ , associated with extensive alteration in dolerite, sandstone and Cahill Formation Schists. Planned work includes SAM/MMR surveying and up to 1,500m of RC and diamond drilling.
- Orion South (South Horn) – Up to 15m @ 0.47%  $U_3O_8$  (from 68m) intersected in previous drilling, within a broader zone along strike, with uranium in fractured and altered dolerite. Planned work includes IP/MMR surveying and up to 750m of RC and diamond drilling in three holes.
- Orion North – Previous drilling has intersected >1,000 ppm  $U_3O_8$ , as well as anomalous HREE and Ra226 in groundwater outflow emanating from the unconformity over a broad area. Alligator considers this to be one of the more significant radiometric anomalies in the ARUP. Planned work includes IP/MMR surveying and up to 1,800m of RC and diamond drilling.
- Orion East – Previous surface sampling has indicated outcropping uranium mineralisation up to 2.1%  $U_3O_8$ , with planned work including alteration mapping, IP/MMR surveying and up to 1,000m of RC and diamond drilling. This is open along strike, with the strike extent concealed by sandstone cover.
- NE Myra – Previous work by Cameco has resulted in some low grade intersections that have not been followed up. Planned work includes additional ground work, and potentially limited drilling

These prospects, with the exception of Myra NE, occur along the interpreted 10km long Orion Trend, representing a broad mineralising system, which also hosts the Caramal resource.

**Tin Camp Creek Project – Key Prospects on MMR Image. Red and orange areas indicate areas of low resistivity/higher conductivity.**



Source: Alligator Energy

## 2014 Drilling

Drilling to date at Orion, NE Myra and Mintaka, targeting SAM anomalous zones, has intersected radiometric anomalism (using a hand-held spectrometer) in a number of the RC holes drilled. Two out of six holes at North Orion, four out of eight holes at NE Myra and six out of nine at Mintaka containing radiometric intervals.



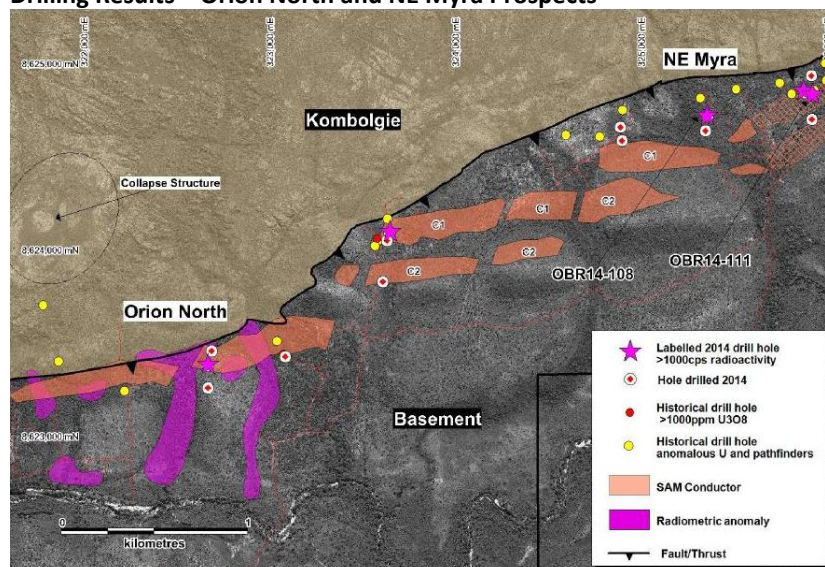


*2014 season drilling to date has provided encouraging results from all prospects drilled, and supports the value of SAM/MMR surveying as a targeting tool*

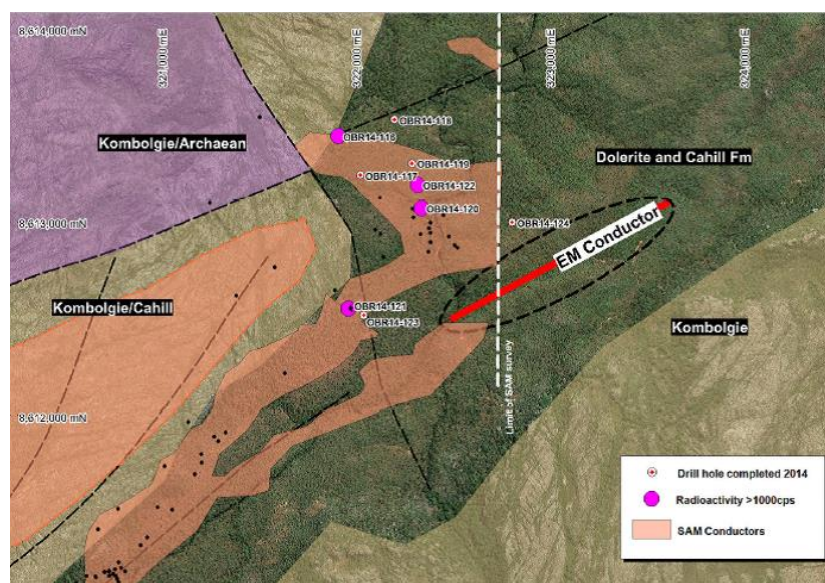
Weak to moderate anomalous radiometric responses over narrow intervals was detected at Orion North, with strongly anomalous radiometric responses at NE Myra, associated with chlorite altered schists. At Mintaka radiometric anomalous is associated with chlorite altered dolerites, with moderate anomalous in four and strong anomalous in two of the holes. Anomalous samples have been sent for assay, with drilling ongoing.

We consider these results to be very encouraging, and support the suitability of SAM/MMR surveying as an exploration tool at the ARUP.

#### Drilling Results – Orion North and NE Myra Prospects



Source: Alligator Energy



#### Caramal

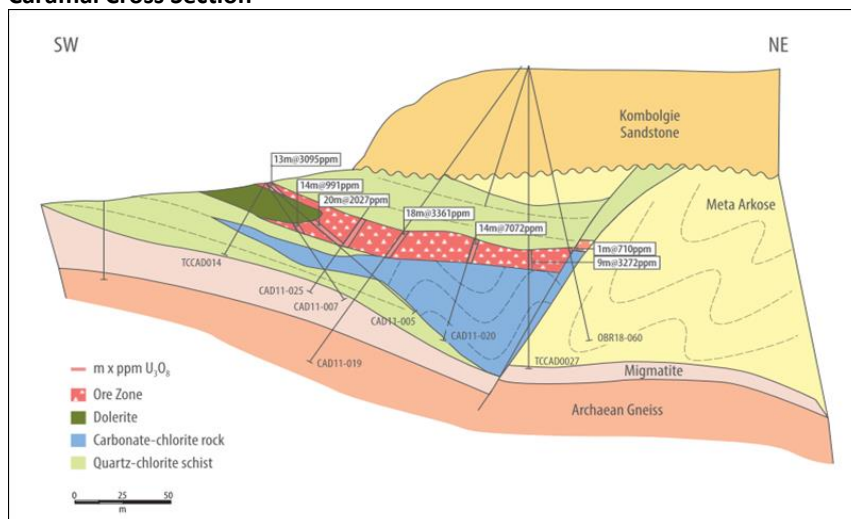
The maiden Caramal inferred resource of 940,000t @ 0.31% U<sub>3</sub>O<sub>8</sub> was announced in April 2012, with extensive drilling completed during the 2011 field season. The mineralisation is located on the Orion structural trend, and is interpreted to be part of a broader mineralising system. The deposit is hosted by the Lower Cahill Formation.

Mineralisation is associated with strong alteration and brecciation, and is structurally complex, resulting in offsetting of the mineralisation. Alteration, mineralogy and lithologies are markedly similar to those at Ranger. This faulting raises the potential for the discoveries of further offsets of the mineralisation.

*The Caramal resource has characteristics markedly similar to Ranger, and is part of the broader mineralising Orion trend*



## Caramal Cross Section



Source: Alligator Energy

## Other Prospects/Regional Targets

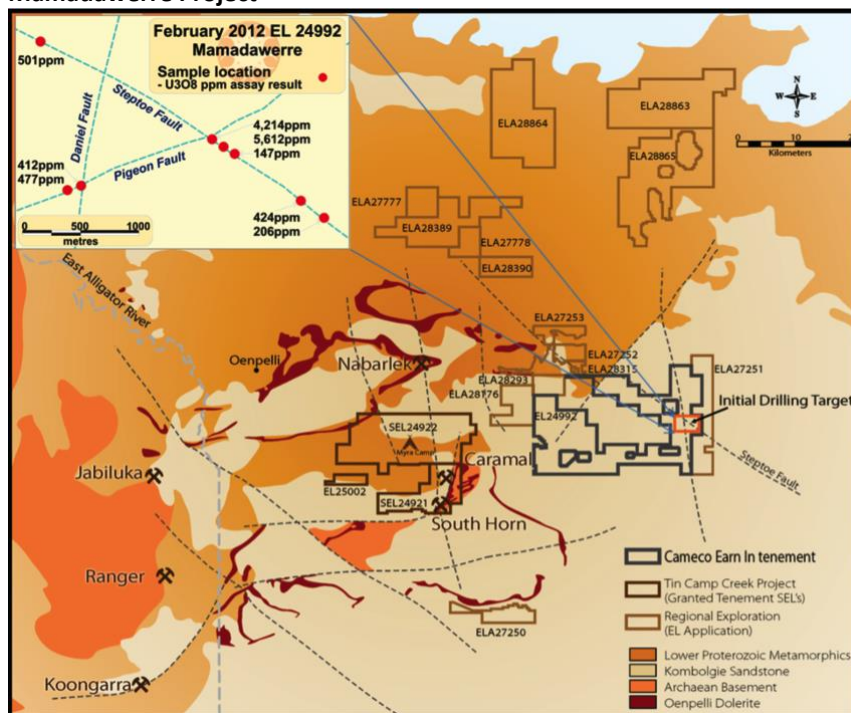
*The Company's holdings include a number of other prospects*

The Tin Camp Creek Project hosts a number of lower priority prospects, including Gorrunghar and Two Rocks. Historic drilling (1972) at Gorrunghar intersected up to 15.8m @ 0.12% U<sub>3</sub>O<sub>8</sub>, with this not being followed up by modern exploration.

## Mamadawerre Project

This includes two tenements – one, EL24992 is subject to an agreement between Alligator and Cameco, with Alligator earning up to 90%. Rock chip sampling by Cameco has returned high grade results, associated with major regional structures, and considered to be immediate drill targets.

## Mamadawerre Project



Source: Alligator Energy

*Other project areas include the Mamadawerre and Beatrice Projects, adjacent to Tin Camp Creek*





The second is the recently granted EL27251, located immediately to the east of EL24992, and held 100% by Northern Prospector P/L, a 100% subsidiary of Alligator.

### **Beatrice Project**

*Farm-in term sheet with Cameco over Beatrice Project, immediately to the south of Tin Camp Creek*

Alligator has recently signed a farm-in term sheet with Cameco, to earn up to 51% of EL's 24291 and 26796, and ELA's 26793, 26794 and 26795. These are currently held 100% by Cameco, and cover 481km<sup>2</sup>.

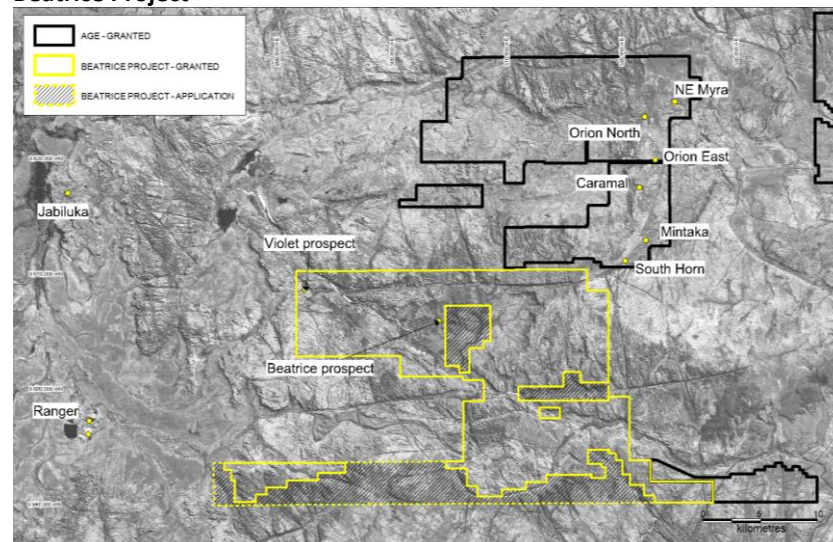
The tenements are located immediately to the south of the Tin Camp Creek Project, and being adjacent to the Tin Camp Creek Project will allow Alligator to pursue prospective structures and mineralised trends identified within the Tin Camp Creek Project area.

Beatrice contains known uranium occurrences, including the Beatrice Prospect, with a best drill intersection of 7m @ 2.8% U<sup>2</sup>O<sup>3</sup>.

The key terms of the proposed Farm-in and Joint Venture are as follows:

- Alligator may earn a Stage 1 interest of 51% in the project by incurring eligible exploration expenditure of \$250,000 prior to 2 July 2016. A Joint Venture (JV) is established at this point.
- Alligator may maintain its Stage 1 interest by sole funding to a total of \$2.0 million in further exploration activities prior to 2 July 2017 (Stage 2).
- Following completion of Stage 2, Cameco may elect to fund continuing exploration on a pro-rata basis to maintain a 49% interest or dilute its interest.
- If AGE fails to meet its expenditure commitments up to the end of Stage 2, AGE will forfeit its interest in the Project.
- On definition of a qualifying resource of at least 75Mlb U3O8 (inferred + indicated + measured), the JV must commence a NI43-101 compliant Prefeasibility Study (PFS) within 12 months.
- Cameco may elect to manage and operate during the PFS stage and fund 51% of the PFS following a payment of \$2 million to AGE, provided they have maintained a 49% interest.
- Following completion of the PFS, Cameco may acquire an additional 2% of the project (for a total of 51%) by paying AGE:
- For a total resource of less than 100Mlb U3O8, an amount equal to 2% x Total Resource (lbs U3O8) x \$5/lb U3O8.
- For a total resource of greater than 100Mlb U3O8, an amount equal to 2% x Total Resource (lbs U3O8) x \$6/lb U3O8 less the initial PFS payment (\$2 million).

### **Beatrice Project**



Source: Alligator Energy



## The Outlook For Uranium

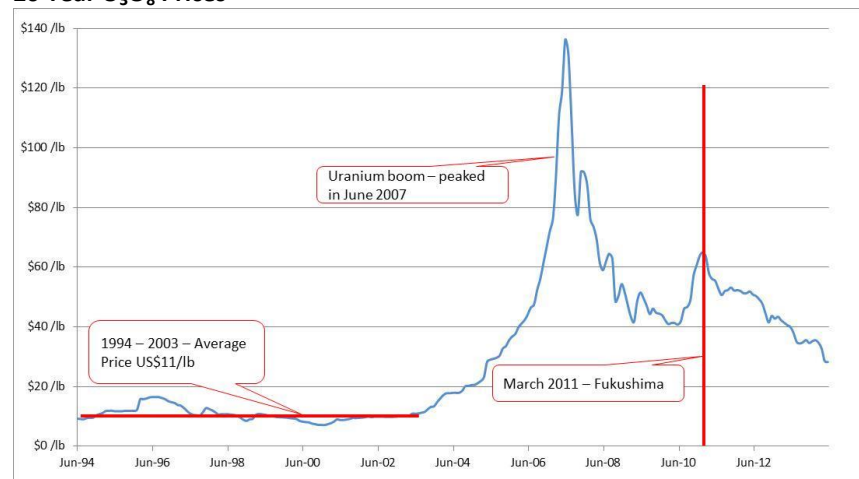
*A key consideration is the outlook for uranium*

*Uranium has had a volatile ride over the last 10 years*

The key issue in any long term success for uranium explorers is where are the uranium industry and uranium prices heading? Uranium power generation is a very topical and political issue in a number of parts of the world, especially so with the current greenhouse gas debates and increasing anti-coal sentiment, and also repercussions from the 2011 Fukushima accident.

The following graph presents a prices going back to 1994, with a number of features highlighted. The rise to the June 2007 high is broadly coincident with the overall resources boom, although uranium prices did peak earlier than a number of other commodities and the boom for junior resources in general.

### 20 Year U<sub>3</sub>O<sub>8</sub> Prices



Source: Index Mundi

The key issue is where do prices go from here? Following stable prices up until 2003, prices have since been volatile, making forecasting prices a nightmare! It would appear that the 2011 earthquake and tsunami which resulted in the Fukushima reactor accidents was a catalyst for the steady decline in prices over the last three years, although this has also been coincident with the malaise in the resources sector overall.

### Fukushima Aftermath

*The nuclear generation industry has been affected by the Fukushima accident, however this has largely been restricted to Japan and Germany*

The result of the Fukushima accident was that Japan has now all but shut down its nuclear power generation (from around 30% nuclear power generation pre-Fukushima), and Germany's has decreased by 50%, with largely older reactors being shut down – this is part of a planned phase out by Germany, with plans to end nuclear power production by 2022. Ironically, although Germany is shutting down its nuclear generation capacity, it will be sourcing nuclear generated power from France.

The net effect of the Japanese and German actions has been a decrease of 15% in global nuclear generation on pre-Fukushima figures, equating to around 330 TWh. In addition, a number of countries, including Switzerland and Spain have banned the construction of new reactors. At the same time global production and sales have not decreased, leading to a supply glut and stockpiling, resulting in falling prices.

*Other major nuclear generators have reaffirmed their commitment to nuclear power, albeit with new standards*

On the other hand, other significant global nuclear power generators including France (which generates 75% of its power from nuclear reactors), South Korea, Russia, China and the USA have confirmed their commitment to nuclear power, with a number of new reactors either under construction or planned, albeit with new standards generated as a consequence of Fukushima.



*The nuclear industry has been historically quite resilient in the face of accidents*

History tells us that nuclear accidents (Three Mile Island, 1979, Chernobyl, 1986 and Fukushima, 2011) have had only minimal effect in the longer term, with the nuclear power generation industry being quite resilient to these shocks. One key result, however, is the improvement of standards, and hence increase in safety as a result of these accidents.

#### **Demand Drivers**

*Some commentators predict a uranium supply shortage by 2017*

The addition of new generating capacity will lead to increases in demand for uranium, with some commentators predicting a supply shortfall by 2017, which potentially should positively drive prices.

According to the WNA, current and planned generating capacity is given below.

*Capacity additions, including from reactors under construction, planned or proposed total 160% of current installed capacity, with those under constructing totalling 21% of current capacity*

- 434 reactors currently operating, 375 GWe installed capacity, and providing around 14% of the world's electricity
- 73 reactors under construction with 78 GWe capacity, or 21% of current installed capacity
- 172 reactors on order or planned with 189 GWe capacity, or 50% of current installed capacity
- 309 reactors proposed, with 347 GWe capacity, or 93% of current capacity

*Current annual requirements are for 77,705t of U<sub>3</sub>O<sub>8</sub>*

The current operating reactors have a requirement for around 66,000 tonnes of uranium (78,000t U<sub>3</sub>O<sub>8</sub>), with additional future demand from reactors currently under construction potentially being in the order of 13,000 tonnes of uranium (15,500 tonnes of U<sub>3</sub>O<sub>8</sub>) – this does not include planned or proposed reactors.

It has been reported that Japan has been stockpiling uranium, with enough to feed planned limited restarts for a number of years. Recent developments include plans to re-start a number of reactors after being upgraded to meet new safety standards put in place after the Fukushima accident.

*We see China as a key driver in nuclear power generation, with planned capacity around 13 times its current generating capacity*

We see China as a key driver in nuclear power generation – In 2013, China, the world's largest electricity generator, generated only 2% of its requirements using nuclear power plants with 17 GWe of installed capacity in 20 reactors. However, according to the WNA, it currently has 29 reactors (33 GWe) under construction, 57 reactors (61 GWe) planned and 118 reactors (122 GWe) proposed, for a total potential additional capacity of 216 GWe, which is around 35% of global potential capacity increases, and a 13 fold increase on current generating capacity in China.

Nuclear power is one of a limited number of reliable base load power sources – the others include coal and natural gas. Given the ongoing debate about coal generation and greenhouse gas emissions, there is the potential for nuclear energy to become relatively more politically palatable, and hence the potential for increases in the proportion of world power generated by nuclear power.

#### **Breakaway's View**

*Commitment to quality and focussed exploration*

Alligator has demonstrated a commitment to quality and focussed exploration since listing in 2011, and has made excellent progress on their Northern Territory uranium projects, resulting in the maiden JORC-compliant resource at Caramal, and the delineation of a number of high quality drilling targets.

Results to date of the 2014 drilling campaign have been encouraging, intersecting pointers to mineralisation, including chlorite alteration and radiometric anomalism in a





*Encouraging results to date from the 2014 drilling campaign*

number of the holes drilled. The results also point towards the suitability of the SAM/MMR surveying as a targeting tool.

The Company has an experienced and committed board and management, who have managed to keep the Company active during extremely difficult times for junior explorers, especially those in the uranium space.

*Development of exploration techniques to suit the targets*

Remaining focussed on the world class ARUP has been a key factor for Alligator, and does help increase the chance for significant exploration success in the future, with the ARUP being significantly under explored. The Company's development of exploration techniques suitable for the area is important in increasing the odds for success.

We see the investment by Macallum as a key positive and a key vote of confidence in the Company.

Of course the big unknown is the future of the uranium market and nuclear power. In the shorter term the effects will be on investor confidence in uranium explorers and hence share price performance, although should Alligator make a significant discovery we could see excellent returns on investment.

*Operating in a high-grade province*

For developers and producers prices do affect the economics of operation – in operating in the ARUP Alligator are operating in a province known for high grade mineralisation, which does provide a buffer against price falls for any future resource – Grade is King.

*We rate Alligator as a SPECULATIVE BUY*

Given the above we rate Alligator as a SPECULATIVE BUY, with good prospects for a significant discovery.

In addition to the current research, the writer, when working for another entity, visited the project in 2011, and at that time had comprehensive discussions with Company personnel, and arrived at the same recommendation. Current research confirms the past view.

*We expect a steady news flow*

With the ongoing exploration activities we expect a steady ongoing news flow.



## Photographs – 2011 Site Visit

**Typical ARUP Scenery – Basement Lowlands, Kombolgie Sandstone Plateau**



**High Grade Breccia - Caramal - Hematite/Chlorite Altered Wallrock (Red), Uranium Mineralisation (Dark)**





## Directors and Management

### *Non-Executive Chairman*

#### **John Main**

**Mr Main** is a geologist with 43 years global experience in mineral exploration and evaluation, including executive positions with CRA and Rio Tinto. John has lead teams that have discovered eight deposits which have been or are being mined. John is a former director of Extract Resources Limited (EXT).

### *CEO and Director*

#### **Robert Sowerby**

**Mr Sowerby** has 26 years' experience in the resource industry. He has diverse experience in mineral exploration, project generation, evaluations and assessments, ore reserve estimation, and in stakeholder negotiations. He has exploration and resource evaluation experience in uranium, gold, nickel and base metals in the complete spectrum of geological environments. His primary expertise is resource evaluation and assessment of uranium resources. He has worked for a number of major resource companies, including ERA at the Ranger mine and for North Limited / Peko Wallsend in the NT, WA, SA, NSW and Qld. In the past 5 years, prior to his current position, Robert has worked as an Independent Consultant in Australia and overseas, principally in uranium. He has been CEO of Alligator Energy since listing on the ASX in February 2011.

### *Non-executive Director*

#### **Paul Dickson**

**Mr Dickson** has over 20 years' experience in the finance services industry. He has worked with a number of stock broking firms including Ord Minett Ltd and Colonial Stock-broking Limited and more recently has been a director of a number of corporate advisory boutiques. Paul is currently a director of DDM Capital Pty Ltd, which provides a range of services including capital raising and general corporate advice for small-cap

### *Non-executive Director*

#### **Andrew Vigar**

**Mr Vigar** has 35 years' experience in the minerals industry covering areas from operations to corporate and finance. He held company positions with Utah, Emperor, WMC and CRAE prior to commencing consulting in 1996 as Vigar & Associates which became part of SRK Consulting where he built and managed the Brisbane practice leaving in 2003 to pursue a range of mining related interests, including the founding of the Mining Associates group and the highly successful Brisbane Mining Club, where he is Chairman. He is a strong supporter of the AusIMM having served on various committees at both a local and national level, including being a past national councillor and founding member of the Hong Kong branch, the first in Asia. He lives in Hong Kong where he is President of Mining Associates Limited.

### *Non-executive Director*

#### **Peter McIntyre**

**Mr McIntyre** has been involved with the development of a number of major mining projects, and at a corporate level he has established and steered various companies through their early stages into significant businesses. Peter established and was Managing Director of EXT during the critical discovery and pre-feasibility stage of Husab in Namibia.

*Biographies extracted from AGE website, July 15, 2014*



### **Analyst Verification**

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

### **Disclosure**

Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of Alligator Energy and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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