# QUARTERLY ACTIVITIES REPORT

**FOR QUARTER ENDED 31 December 2013**

# HIGHLIGHTS

## EXPLORATION

- Successful 2013 drilling season completed at Company's project area in the world class Alligator Rivers Uranium Province.
- 5,584m of diamond and RC drilling completed in 2013 including 2,361m in December Quarter.
- Assay results received from Phase 1 and Phase 2 drilling programs.
- **Highlight results from Phase 2 drilling included**;
  - 10m @ 672ppm U308 from 128m in OBR13-085 at Caramal Deposit
  - 4m @ 259ppm U308 from 82m in OBR13-091 at Caramal East area
  - Initial Drilling at Orion North Project intersects strongly faulted and altered Kombolgie Sandstone and Cahill Formation rocks and radiometrically anomalous groundwaters
- **Highlight results from Phase 1 drilling included;**
  - 6m @ 966ppm U308 from 114m in OBR13-75 at Caramal Deposit
  - 9m @ 652pp U308 from 110m in OBD13-074 at Caramal Deposit
  - 7m @ 2886ppm U308 from 13m in OBR13-082 at Gorrunghar Prospect

## CORPORATE

- $1.846 million capital raising completed ($0.9m during the quarter)
- Funds to be used to advance exploration at Company's project area in the world class Alligator Rivers Uranium Province
- Board restructure completed with Mr John Main appointed as Chairman and Mr Peter McIntyre appointed a Non-executive Director
- Appointments strengthen the Company's capacity to achieve its goals of discovering world class uranium deposits.

**Alligator Energy**

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ASX Code: AGE

Number of Shares:
205.8M Ordinary Shares
14.5M Unlisted Options

Board of Directors:
Mr John Main (Chairman)

Mr Robert Sowerby (CEO, Director)

Mr Paul Dickson (Non Exec. Director)

Mr Peter McIntyre (Non Exec. Director)

Mr Andrew Vigar (Non Exec. Director)

# EXPLORATION ACTIVITIES

During the December quarter, Alligator completed its successful 2013 field season at its Tin Camp Creek Uranium Project, and regional projects, in the Alligator Rivers Uranium Province, in the Northern Territory. The Company completed 5,584 metres of diamond and RC drilling in 2013, including 2,361 metres in the December quarter.

Also during the quarter, assay results were received from both the Phase 1 and Phase 2 drilling programs.

## Phase 2 Drill Results and Refocus of Exploration Strategy

3,628 metres of drilling was completed in Phase 2 of drilling, which was undertaken subsequent to the Company entering into its strategic investment partnership with Macallum Group and the ensuing Rights Issue (refer ASX announcement, 18 September 2013).

The Phase 2 drill program focused primarily on the Caramal East area and the Orion North Prospect, in line with the Company's shift in focus to targeting areas considered prospective for large (>100Mlb $U_3O_8$) deposits, within the broader Orion Trend. This work marked the beginning of an exploration strategy of testing multiple high value targets at Tin Camp Creek, and regionally, within the Company's project area (refer ASX announcement, 16 October 2013) .

### Caramal and Caramal East drilling and assay results

A total of 13 drill holes were completed on structural targets in the broader Caramal and Caramal East area, and laboratory results have been received. In the Caramal area, anomalous uranium and alteration was intersected to the northeast of the deposit with a best intersection of;

- **10 metres at 672ppm U3O8 from 128 metres in OBD13-085.**

Work undertaken in 2013 has defined a broader area of alteration and lower grade mineralisation in the Caramal Deposit area, however significant extensions of high grade (>1000ppmU3O8) mineralisation have not been identified. Consequently Alligator's focus has shifted to prospect areas which are considered to have higher potential for large (>100Mlb U3O8) deposits in line with the company's renewed strategy.

At Caramal East, wide spaced drill holes were completed as an initial test of broad structural targets. Anomalous uranium and alteration was reported in drill hole OBR13-091 at Caramal East, with the following intersection;

- **4 metres at 259ppm U3O8 from 82 metres** in OBR13-091

This occurrence is located approximately 250 metres west of previous uranium mineralisation intersected in the 2012 exploration season and may indicate the presence of a broader uranium geochemical zone, or trend in this area. Drilling to date has indicated that the Caramal East area is structurally and geologically complex, and further drilling is required to fully determine the potential for significant high grade uranium mineralisation in this area.

Prioritisation of work at Caramal-Caramal East will be assessed after a more thorough review of 2013 drill results, including all structural and geochemical data. The prospects will be ranked against Alligator's other high priority targets including Orion North, Orion East and Mintaka. The results of the 2013 drilling programs plus results from previous exploration seasons, together with a detailed structural study have provided a significantly higher level of confidence on the controls of mineralisation at Caramal. This provides a sound basis from which to expand Alligator's strategy to a wider more systematic evaluation of targets within the Tin Camp Creek Project area, and regional projects.

### Orion North Drilling and Groundwater Sampling

Three Diamond Drill holes were completed at the Orion North Prospect to provide an initial test of structural targets and determine basement geology in the area**.** The Orion North Prospect is located 7km north of the Caramal area and is considered to be a high priority target. The prospect is centred on the intersection of prominent north trending and east trending faults (evident in outcrop and geophysics).

The area is considered particularly prospective due to the presence of strong radiometric anomalies associated with groundwater outflow from beneath the Kombolgie sandstone and from a major east trending fault.

Drilling to date has intersected strongly fractured and altered Kombolgie Sandstone and Cahill Formation rock types. Radiometrically anomalous responses were returned from groundwater intersected in the three drill holes.

Assay results have been received subsequent to the end of the quarter. Significant uranium anomalism has not been intersected in drill core, however anomalous Radium 226 (maximum 147mBq/l Ra226 in OBD13-100) was encountered in groundwater samples collected from these drill holes. Radium 226 is a daughter product of uranium and is a possible indicator of an anomalous uranium source in the area**. The presence of strong alteration, Lower Cahill Formation rocks and anomalous radionuclides in groundwater is considered by Alligator to provide strong encouragement to pursue this target area in 2014.**

## Phase 1 Drill Results

The Company completed Phase 1 of its 2013 drilling program in the September Quarter, and the results were released in the December Quarter (see ASX announcement, 16 October, 2013). A total of 1,996 metres of RC and Diamond Drilling was completed during this phase. It focused on testing the area to the immediate north of the known Caramal Resource for potential structural repetitions of mineralisation, plus an initial drill test of the historic Gorrunghar Prospect. A total of 11 drill holes at Caramal and three drill holes at Gorrunghar were completed in this phase of drilling.

Phase 1 drilling targeting potential structural repetitions to the north and northwest of the Caramal deposit, intersected strong chlorite alteration and variable uranium anomalism and mineralisation. Significant intersections included:

- **6 metres @ 966ppm $U_3O_8$ from 114 metres in OBR13-075**
- **9 metres @ 652 ppm $U_3O_8$ from 110 metres in OBD13-074**

The intersection in drillhole OBD13-074 occurred within a broader zone of anomalism of**:**

- **25 metres @ 386ppm $U_3O_8$ from 105 metres**

Mineralisation was intersected deeper than anticipated and has defined mineralisation in the western half of Caramal as being clearly associated with a steep dipping fault and breccia zones which differs from mineralisation in the eastern half of the deposit. Drilling to the north of this structure has determined that a significant offset of geology occurs in this area. Strong chlorite ± hematite alteration was intersected in this area however with only low level uranium anomalism.

Three drill holes for a total of 247.1 metres were also completed at the historic **Gorrunghar prospect**. This was the first drilling undertaken at Gorrunghar since 1972.

Drilling was preceded by mapping, ground radiometric surveys and surface sampling to refine drill targets. A total of 12 samples were obtained from the limited area of outcropping, in-situ mineralisation. Sampling confirmed the presence of high grade uranium mineralisation with assays ranging from **310ppm U3O8 to 6089ppm U3O8** associated with a northwest trending structural zone. The ground radiometric survey identified moderate to strong radiometric anomalies associated with a NW trending structure and an ENE trending chlorite-hematite schist horizon.

Drilling undertaken in September was designed to confirm the presence of uranium mineralisation and determine its orientation and nature. A high grade intersection of **7m @ 2886ppm $U_3O_8$ from 13m was returned from OBR13-082.** Mineralisation is associated with chlorite schist. Initial results indicate an ENE trend and steep dip to mineralisation. The tenor of mineralisation compares well with historic intersections of **15.8m at 1215ppm $U_3O_8$ from 25m in TCGOR-5** and **14.5m at 2644ppmU3O8 from 1.3m in TCGOR-6.**

Alligator considers however that the location of these historic drill holes is not well defined and further drilling is required to properly determine the orientation of mineralisation and potential for a significant resource.

## Mamadawerre Joint Venture Project

The Company advises that Alligator and its Mamadawerre Joint Venture partner, Cameco Australia Pty Ltd have agreed to extend the terms of the joint venture on EL24992. Drilling at the project has been deferred to the 2014 exploration season, so that helicopter drilling can be undertaken in conjunction with work on neighbouring projects to maximize operational and cost efficiencies.

Under the revised terms of the joint venture, the period for Alligator to complete its initial expenditure and drilling obligations has been extended by 12 months to December 2014.

## Regional Tenure

Alligator is pleased to advise that during the quarter, the first of the Northern Prospector Pty Ltd Exploration Licence applications (ELAs) was granted, on 9 December 2013. Northern Prospector is a wholly owned subsidiary of Alligator Energy. The licence, EL27250 is located 20km south of the Tin Camp Creek Project and is situated within a major structural corridor known as the Bulman Fault Zone. Initial ground reconnaissance at the new licence is expected to commence during the 2014 field season.

Alligator has also received notification from the Federal Minister for Indigenous Affairs that consent has been granted under the Aboriginal Land Rights Act for the grant of **Exploration Licence Application 27251**. ELA 27251 adjoins the Mamadawerre JV Project. Surface uranium mineralisation has been identified to the immediate west of ELA27251 along the Steptoe fault. The Steptoe Fault continues onto ELA27251

The grant of exploration Licences in Arnhem Land is administered by the Northern Territory Department of Mines and Energy. Access to land is governed by the Federal Aboriginal Land Rights Act. The grant of exploration tenements firstly requires approval by the Traditional Owners who are represented by the Northern Land Council (NLC) following negotiation of an Exploration Agreement.

# RESEARCH AND DEVELOPMENT

During the quarter, work continued on the ongoing Collaborative R&D project with CSIRO (initially announced in March 2013 Quarterly Report). The project is focusing on characterising alteration and geochemical halos surrounding uranium mineralisation.

The objective of this work is to derive and refine exploration techniques that more efficiently evaluate target areas. Interim results indicate specific geochemical markers which may characterise broader halos that can be recognised under the sandstone cover rocks in the region. Application of these techniques will commence in February 2014, using existing drill samples to prioritise targeting for the 2014 field season.

The Company also advises that it has received an R&D Tax Offset claim during the December Quarter in the amount of $635,475 for the 2011/2012 tax year.

# CORPORATE

## Completion of $1.846M capital raising

In October, the Company completed the final components of a $1.846 million capital, pursuant its previously announced Investment Agreement with private investment group, the Macallum Group Ltd **(MGL)** (see ASX announcement, 18 September 2013).

Under the Investment Agreement with MGL, a strategic 15% share placement of 23,337,750 shares to MGL at a price $0.04 per share, which raised a total of $933,510, was completed in the previous quarter.

The Investment Agreement also included a non-renounceable partially underwritten Rights Issue to eligible shareholders, on the basis of 1.5 new shares for every 10 shares held at the record date, at a price of $0.034 per share, to raise up to approximately $912,506 (before costs). The pricing of the Rights Issue represented a discount of 15% to the Placement price and a discount of 2.9% based on the VWAP for 10 days upon which trades occurred up to 17 September 2013.

On 24 October 2013 the Company announced that the Rights Issue had closed and had raised $540,205 via the issue of 15,888,381 new shares. This gave rise to a Rights Issue shortfall of $372,301, representing 10,950,031 new shares. In accordance with the Investment Agreement with MGL, MGL subscribed for the full balance of shares under the Rights Issue shortfall, and, as result, MGL now holds and 18.73% interest in the Company (see ASX announcement, 30 October, 2013).

The funds raised will be used to drive the Company's exploration strategy at its project area in the world class Alligators River Uranium Province in the Northern Territory, which is focused on the discovery on large scale uranium deposits.

MGL incorporates the key corporate and technical members of the previously ASX-listed uranium company, Extract Resources Ltd (ASX: EXT). The EXT team were successful in discovering and delineating the world-class Husab Uranium Project in Namibia, a +500m.lbs (U3O8) resource, which is now under construction to produce 15m.lbs (U3O8) annually, ranking it in the top-tier of the world's uranium projects.

## Board Restructure and appointment of new Chairman and Director

As part of the strategic investment partnership between the Company and MGL a restructure of the Company's board was undertaken. This resulted in MGL nominees Mr John Main joining the Company's board (see ASX announcement, 30 October, 2013). Also, in line with the board restructure, inaugural Chairman Mr Denis Gately confirmed his retirement from the board effective from the Company's AGM, which was held on 29 November, 2013. Mr Main was appointed the Company's new Chairman at the AGM after being re-elected as a director.Mr McIntyre and Mr Paul Dickson were also re-elected as directors at the AGM.

The Board and management of Alligator thank Mr Gately for his stewardship as Chairman since Alligator's listing on the ASX in February 2011 and wish him well in his future endeavours.

The addition of Mr Main and Mr McIntyre to the board significantly strengthens Alligator's corporate, technical and financial capacity to achieve its goals of discovering world class uranium deposits in the Alligator Rivers Uranium Province.

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

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

## Cash at Bank

The Company has prepared and will lodge an Appendix 5B Quarterly Report at the same time as lodging this Activities Report. The cash balance at 31 December 2013 was $2.776 million with a net increase of cash holdings for the quarter of $0.403 million. See further details of the cash inflows and outflows for the quarter in this separate report.

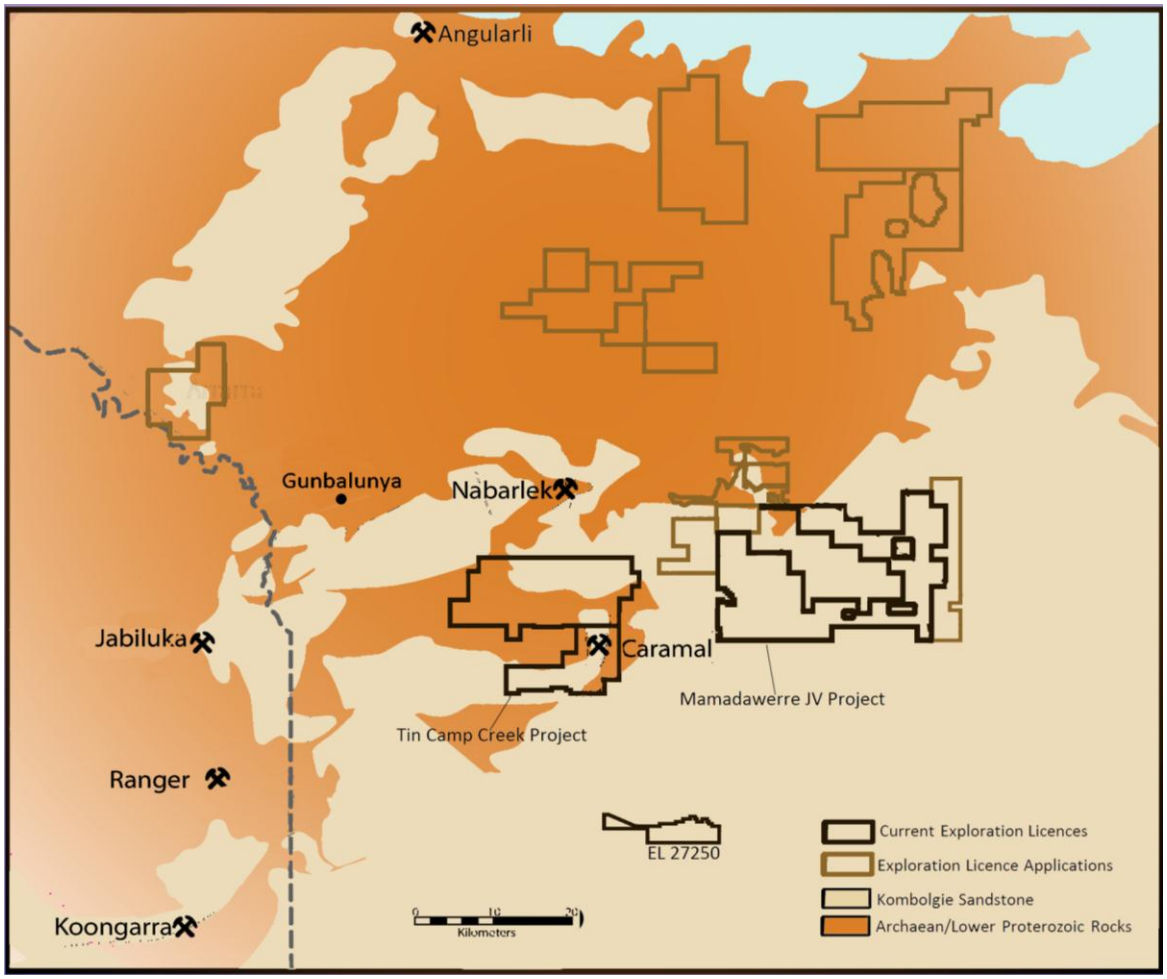


*Figure 1. Alligator Energy Tenements Regional Location.*

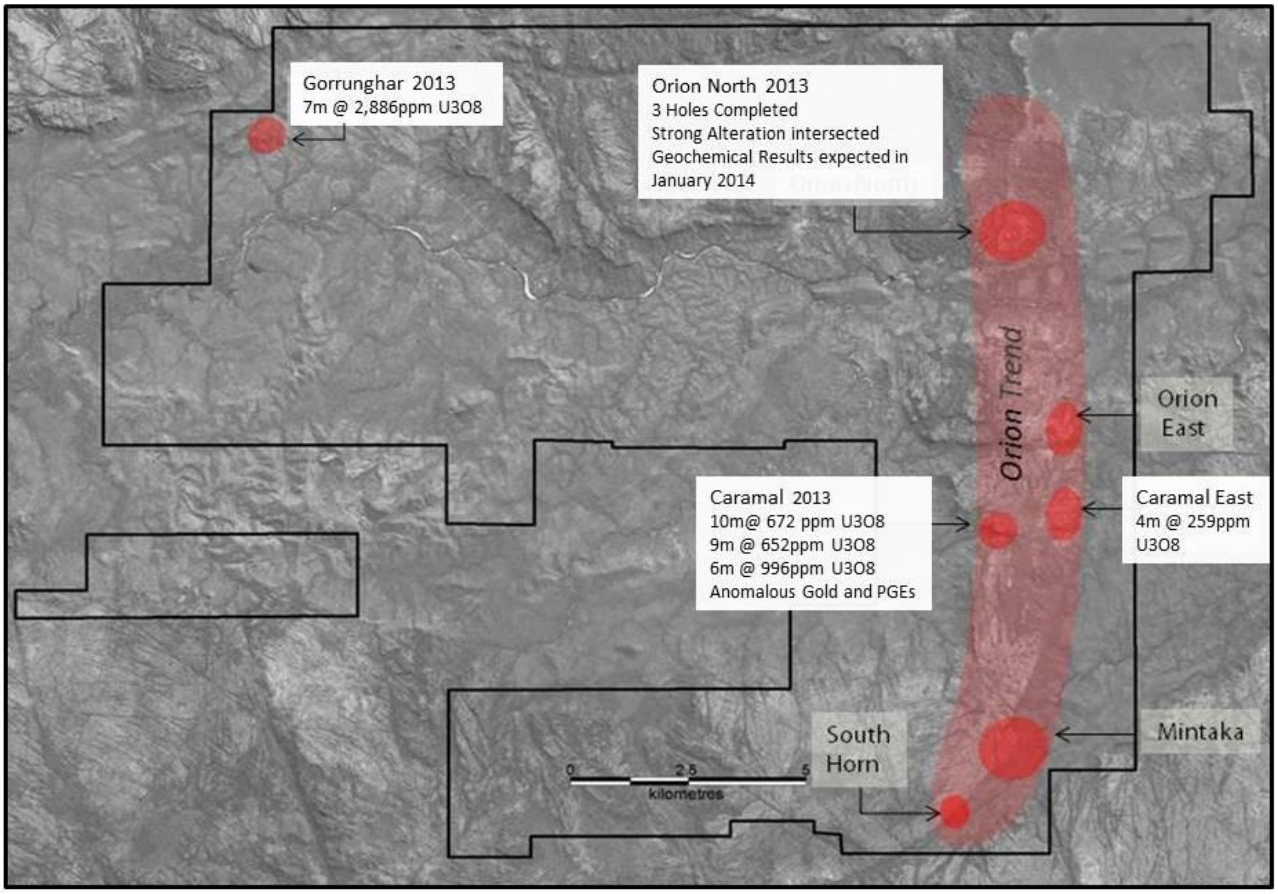

*Figure 2. Tin Camp Creek Project – Prospect Locations and Current Results.*

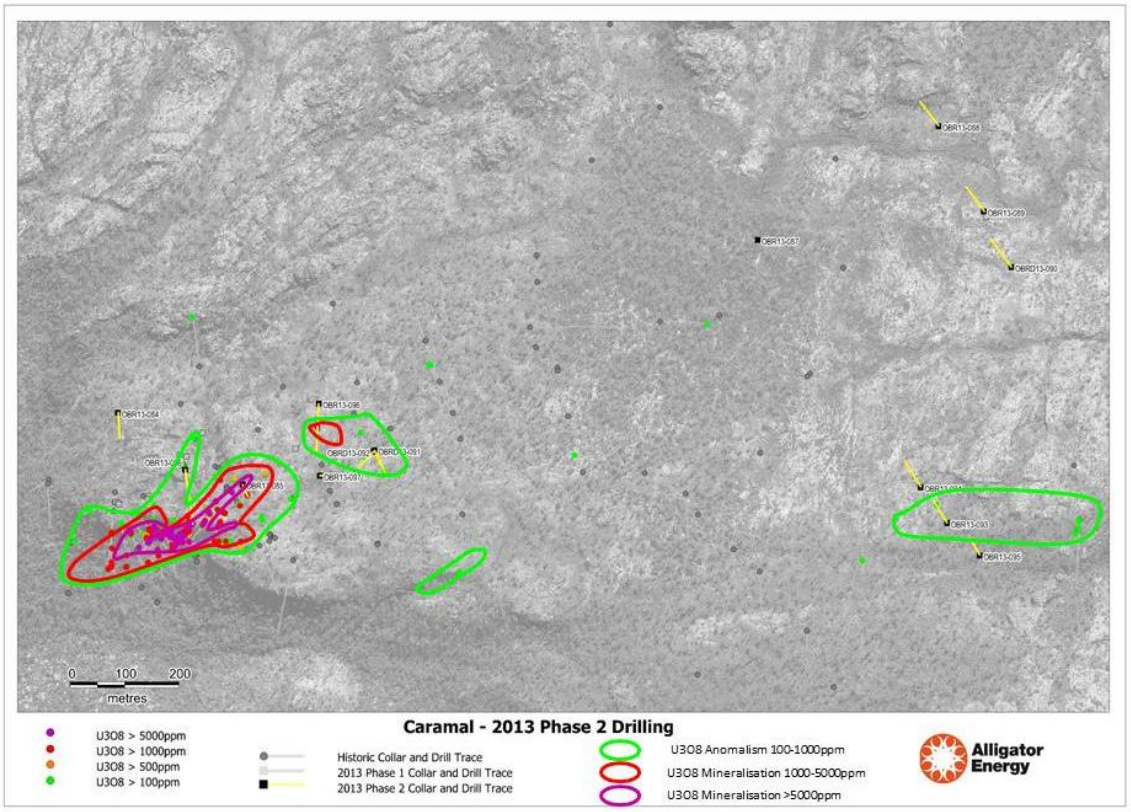


*Figure 3. Caramal Phase 1 Drilling*

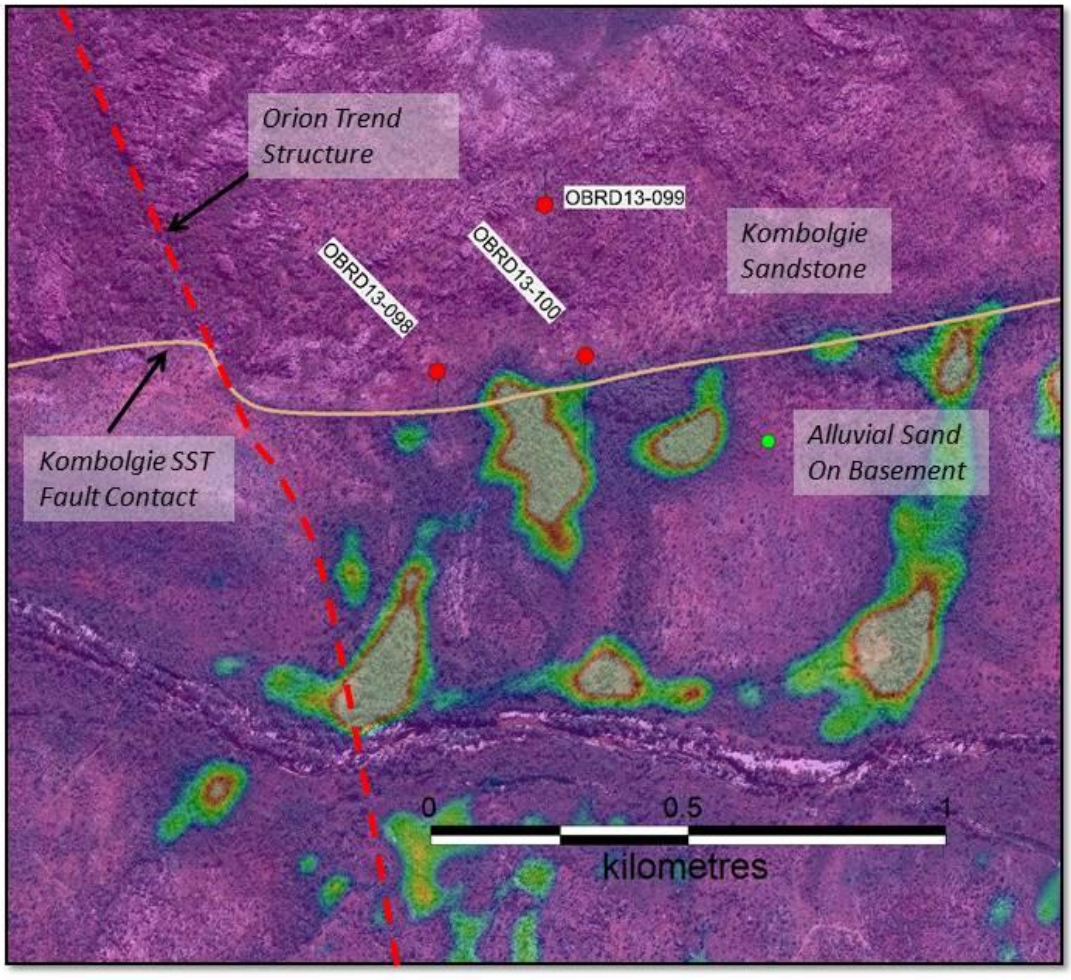


*Figure 4 Orion North Drill Hole Locations on U/Th ratio radiometrics*

**Table 1 - Phase 1 2013 Drilling Results- Caramal and Gorrunghar**

| Hole ID | MGA94 Easting | MGA94 Northing | Azimuth (mag) | Dip | From | Length | Grade |
|---|---|---|---|---|---|---|---|
| OBRD13-070 | 321409 | 8617762 | - | -90 | No significant uranium mineralisation Strong alteration and low level uranium anomalism up to 100ppm $U_3O_8$. | | |
| OBR13-071 | 321297 | 8617696 | 121 | -70 | No significant uranium mineralisation Strong alteration and low level uranium anomalism up to 106ppm $U_3O_8$. | | |
| OBRD13-072 | 321293 | 8617698 | 250 | -70 | No significant uranium mineralisation Strong alteration and low level uranium anomalism up to 118ppm $U_3O_8$. | | |
| OBR13-073 | 321297 | 8617696 | 350 | -60 | No significant uranium mineralisation | | |
| OBR13-074 | 321299 | 8617694 | 140 | -50 | 110 | 9 | 652 |
| OBR13-075 | 321349 | 8617702 | 128 | -55 | 114 | 6 | 996 |
| OBR13-076 | 321606 | 8617789 | 310 | -85 | No significant uranium mineralisation | | |
| OBR13-077 | 322809 | 8618184 | 335 | -75 | | | |
| OBR13-078 | 321416 | 8617775 | 85 | -68 | | | |
| OBR13-079 | 321405 | 8617778 | 265 | -53 | | | |
| OBR13-080 | 321445 | 8617816 | 40 | -65 | | | |
| OBD13-081 | 306245 | 8626337 | 305 | -60 | | | |
| OBR13-082 | 306235 | 8626380 | 240 | -45 | 13 | 7 | 2886 |
| OBR13-083 | 306186 | 8626392 | 130 | -45 | No significant uranium mineralisation | | |

**Table 2: Phase 2 2013 Drilling Results – Caramal/Caramal East/Orion North**

| Hole ID | MGE 94 Easting | MGA 94 Northing | Azimuth (Mag) | Dip | From | Length | Grade |
|---|---|---|---|---|---|---|---|
| OBR13-084 | 321301 | 8617849 | 176 | -75 | No Significant Uranium mineralisation | | |
| OBR13-085 | 321514 | 8617727 | 153 | -81 | 128 | 10 | 672 |
| OBR13-086 | 321414 | 8617752 | 171 | -55 | No Significant Uranium mineralisation | | |
| OBR13-087 | 322411 | 8618144 | | -90 | No Significant Uranium mineralisation | | |
| OBR13-088 | 322726 | 8618338 | 325 | -70 | No Significant Uranium mineralisation | | |
| OBR13-089 | 322805 | 8618193 | 325 | -70 | No Significant Uranium mineralisation | | |
| OBRD13-90 | 322853 | 8618098 | 325 | -80 | No Significant Uranium mineralisation | | |
| OBRD13-91 | 321744 | 8617785 | 153 | -80 | 82 | 4 | 259 |
| OBRD13-92 | 321742 | 8617783 | 225 | -80 | No Significant Uranium mineralisation.<br>low level uranium anomalism up to 147ppm $U_3O_8$. | | |
| OBR13-093 | 322741 | 8617661 | 330 | -75 | No Significant Uranium mineralisation.<br>low level uranium anomalism up to 144ppm $U_3O_8$. | | |
| OBR13-094 | 322695 | 8617722 | 330 | -75 | No Significant Uranium mineralisation | | |
| OBR13-095 | 322798 | 8617606 | 330 | -65 | No Significant Uranium mineralisation | | |
| OBR13-096 | 321639 | 8617859 | 180 | -65 | 130 | 4 | 324 |
| OBR13-097 | 321649 | 8617742 | 93 | -87 | No Significant Uranium mineralisation | | |
| OBRD13-98 | 321579 | 8623365 | 183 | -79 | No Significant Uranium mineralisation<br>Radiometrically anomalous Groundwater intersected | | |
| OBRD13-99 | 321788 | 8623689 | 3 | -80 | No Significant Uranium mineralisationRadiometrically anomalous Groundwater intersected | | |
| OBRD13-00 | 321865 | 8623396 | 183 | -60 | No Significant Uranium mineralisationRadiometrically anomalous Groundwater intersected | | |

**Minimum Intersection considered significant is 4m @ 200ppm $U_3O_8$**

## Competent Persons Statement

Information in this report is based on current and historic Exploration Results compiled by Mr Rob Sowerby who is a Member of the Australasian Institute of Geoscientists. Mr Sowerby is CEO and Director of Alligator Energy Ltd, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Sowerby consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.

# JORC Code, 2012 Edition – Table 1

## Tin Camp Creek Project – Phase 1 & 2 Drilling Results

## Section 1 Sampling Techniques and Data

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | 1 metre interval drill samples were obtained during the reported phase of work. Half were diamond samples and spear sampled RC chips.<br>• For core samples, representative half core samples are obtained in 1 metre intervals using a core saw cutting consistently along orientation lines<br>• RC samples were collected in 1 metre intervals from bulk riffle split samples collected in plastic bags at the cyclone. A 3kg sample was subsequently obtained for assay from the riffle split sample by spear sampling.<br>• The samples obtained are considered to be representative of the intervals from which they were obtained and sampling and sub-sampling techniques were appropriate for the sample type and for exploration purposes |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | Drilling was undertaken using a combination of Reverse Circulation drilling with face sampling bit and diamond core drilling. The distribution of drilling for 2013 was 3924 metres RC and 1660 metres NQ2 diamond (50.5 mm diameter).<br>All core was orientated using a Reflex ACT2 tool. |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | For diamond drilling, the core recovery is measured for each run during drilling. Basic geotechnical logging of all drill core, including RQD and core recovery, has been undertaken. Core recoveries for all sampled intervals were in excess of 95%.<br>The project geologist remains at the rig during RC drilling activities, with logging occurring as drilled. RC Samples were collected from the cyclone via a riffle splitter and transferred directly to a plastic sample bag for each 1 metre interval. For exploration drilling sample recovery quality is monitored visually by the geologist by volume of returned sample. Where sample recovery is compromised by excessive water, sample recovery is maintained by converting to Diamond Drilling, Sample recovery is maximised during RC drilling by use of face sampling hammers. Sample recoveries were considered to be |

| | | |
|---|---|---|
| | | excellent and no significant sample bias is considered to have occurred. |
| ***Logging*** | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | • All core and chip samples are logged systematically recording lithology, alteration and mineralization. For drill core, additional logging included structural logging on orientated core and geotechnical logging. Drilling was undertaken for exploratory purposes, however logging has been undertaken to a level sufficient to support future Mineral Resource estimation, mining studies and metallurgical studies.<br>• Lithological logging is qualitative, geotechnical logging of drill core has been undertaken quantitatively<br>• All (100%) drill intervals have been logged. |
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • For core samples, representative half core samples are obtained in 1 metre intervals using a core saw.<br>• RC samples were collected in 1 metre intervals from riffle split drill cuttings collected at the cyclone. A 3kg sample was subsequently obtained for assay from the riffle split sample by spear sampling.<br>• The samples obtained are considered to be representative of the intervals from which they were obtained and sampling and sub-sampling techniques were appropriate for the sample type and for exploration purposes<br>• Field Blanks, duplicates and laboratory prepared standards are inserted into the sampling sequence. For exploration drilling, Blanks and standards are inserted whenever uranium mineralization is encountered as follows:<br>➢ Blank sample of unmineralised material (immediately following a mineralised sample) 1 in each hole intersecting a mineralized zone<br>➢ Mineralised duplicate in each drill hole intersection of a mineralized zone.<br>➢ Certified standard for each drill hole intersecting a mineralized zone.<br>➢ Sampling of barren material either side of mineralised zones.<br><br>RC and core samples were submitted for analyses to Bureau Veritas' Laboratory in Darwin. Further sample preparation was undertaken by Bureau Veritas prior to assay. Drill samples were dried to a core temperature of approximately 100ºC. Dried samples are then coarse crushed using a Boyd crusher to a sizing of approximately 5mm. The total sample is then milled in an LM5 pulveriser to 85% passing 75µm. An analytical pulp of 250 g is taken from the bulk and the residue retained. The pulp sample is then delivered to Bureau Veritas' laboratory in Adelaide.<br><br>Sample sizes were considered appropriate for the type of material being sampled<br>. |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools,* | • Geochemical assay of representative samples was undertaken at Bureau Veritas' Adelaide laboratory. Uranium analysis was undertaken utilising ICP-MS using Lithium Borate fusion of the pulp sample. This technique is considered a total analysis method and appropriate for the |

| | | |
|---|---|---|
| | *spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | style of mineralisation intersected.<br>• Geophysical tools have not been utilised for quantitative analysis.<br>• Field Standards, blanks and duplicates were included in the samples submitted to the laboratory, in addition Bureau Veritas also include quality control samples routinely to monitor the precision and accuracy of analysis. Acceptable levels of accuracy have been established. |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Intersections reported for this phase of drilling have not been verified by an external party to date.<br>• No twinning of holes Has been undertaken<br>• Logging, sampling and assay data is recorded and maintained digitally. Physical sample duplicates and core trays are maintained on site.<br>• No adjustment of assay data is undertaken |
| ***Location of data points*** | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Current drill hole locations were surveyed using GPS with accuracies of between 1-4 metres<br>• All drill holes have been surveyed on Map Grid of Australia 94 (MGA94 Zone 53<br>• A digital Terrain model (DTM) derived from previous airborne geophysical surveys is used for topographic control. Vertical resolution for the DTM is considered to be within 1 metre. |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*<br>• *Whether sample compositing has been applied.* | • Drilling during this phase of work has been broad spaced for exploratory purposes to test new structural targets and until significant mineralistion is identified is insufficient to define mineral resources.<br>• Sample compositing has not been applied |
| ***Orientation of data in relation to geological structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | • Current drilling is of an exploratory nature. There is generally insufficient data in the areas drilled during this phase of work to determine the orientation of host structures.<br>• No known sampling bias is known to have been introduced by the drilling orientation. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | Samples, each contained in zip tied, plastic sample bags were delivered by Alligator personnel in sealed 200 litre drums directly to the Bureau Veritas Laboratory in Darwin with Chain of Custody documentation |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • No audits have been undertaken for this phase of drilling |

## Section 2 Reporting of Exploration Results

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*<br>• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | All drilling reported in this ASX release was undertaken on the Tin Camp Creek Project which is comprised of contiguous exploration licences EL24921 and EL24922 in the Northern Territory. The tenement is held by TCC Project Pty Ltd (98%), a wholly owned subsidiary of Alligator Energy Ltd (Alligator) and by West Arnhem Corporation Pty Ltd (2%). The tenements were recently renewed by the Northern Territory Department of Mines and Energy for a further 2 year period (until May 2015 whereby AGE may apply for additional 2 year renewal periods) and are in good standing. Exploration and Mining agreements with the Northern Land Council (**NLC**) on behalf of traditional owners are in place for these tenements in accordance with the Aboriginal Land Rights Act (1976).<br><br>The Tin Camp Creek Project is also subject to a uranium buy back agreement with Cameco Australia Pty Ltd whereby Cameco may buy 51% of a defined resource greater than 20,000t contained U3O8.<br><br>There are no known existing impediments to operating on any tenement within the Tin Camp Creek Project area. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | Regional exploration has previously been undertaken by other parties in the region by Queensland Mines Ltd (1970-1972), Afmeco (1996-2001) and Cameco Australia Pty Ltd (2001-2010). |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | Alligator is exploring for Unconformity Associated Style Uranium Deposits. The geology of the area being targeted is comprised primarily of Carpentarian aged sandstones of the Kombolgie Formation overlying multiply deformed meta-sediments of the lower-Proterozoic Cahill Fm and Archaean granite Gneiss Complexes. |
| ***Drill hole Information*** | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>  ○ *easting and northing of the drill hole collar*<br>  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>  ○ *dip and azimuth of the hole*<br>  ○ *down hole length and interception depth*<br>  ○ *hole length.*<br>• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | Drill hole survey information is provided in the Table 1 and 2 above. Collar positions were located by GPS with accuracies of 1-4metres. This accuracy is considered sufficient for exploration purposes and for the style of mineralisation targeted. |
| ***Data aggregation methods*** | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are* | Uranium drillhole intercepts reported in Table 1 of the ASX release (Friday 13 December 2013) were aggregated using a lower cut-off of 200ppm U3O8. Internal waste (<200ppm U3O8) were included if less than 2m in length. Intersections > 4m @200ppm U3O8 are reported as |

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| | *usually Material and should be stated.*<br>• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | significant. |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | The relationship between intercept lengths and mineralisation widths is uncertain for results reported in this release as the drilling is targeting new areas and the structural relationships of mineralisation have been shown to be complex in the broader region. Consequently, results are reported as drilled intercept lengths. |
| ***Diagrams*** | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | Refer Figures 2,3 & 4 and Table 1 and 2 above |
| ***Balanced reporting*** | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | All results of significance have been reported |
| ***Other substantive exploration data*** | • *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | No significant exploration data has been omitted |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | A number of targets have been identified on the Tin Camp Creek Project area. The drilling reported on in this release is the first part of what Alligator intends to be a systematic test of these targets. Further advice on this ongoing work will be provided following further assessment and ranking of these targets in the coming months. |

## Company Information

Alligator Energy Ltd is an Australian, ASX listed exploration company with uranium exploration tenements in the world class Alligator Rivers Uranium Province in Arnhem Land, Northern Territory. The Alligator Rivers Uranium Province hosts nearly 1 billion pounds of high grade uranium resources and past production, including the Ranger Mine and Jabiluka. The company's flagship project is the Tin Camp Creek Project. Since listing in February 2011, the company has completed in exess of 15,000m of drilling, defined a maiden high grade,JORC compliant resource at Caramal (6.5Mlb U3O8 at 3100ppm U3O8 ) and discovered new mineralization at Mintaka and Orion East. High Grade mineralization also occurs at the historic South Horn and Gorrunghar prospect which remain only partially tested.

The company has in excess of 1000km2 of Exploration Licence applications and is also in Joint Venture with Cameco Australia Pty Ltd for the Mamadawerre Project, also within the Alligator Rivers Uranium Province.

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