



22 August 2014

ASX Announcement

**First drill holes completed at Orion North on the Tin Camp Creek Project**

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**Highlights**

- **First drill holes completed at Orion North on the Tin Camp Creek Project**
- **Drilling intersects altered schists associated with SAM/MMR targets**
- **Anomalous radiometric responses detected in 2 of first 6 holes**
- **Field spectrometer analysis indicates anomalous radiometric responses associated with uranium**
- **Initial results provide strong encouragement for current targeting methods.**
- **Drilling is now continuing approximately 2km along strike at the NE Myra target area.**

Alligator Energy Ltd provides the following update on exploration activities at the Tin Camp Creek Project in the Northern Territory. The first phase of drilling has been completed at the Orion North Target. A total of 6 RC holes have been completed in two traverse lines across the target zone. A seventh hole was abandoned at shallow depths due to drilling difficulties.

Drilling has intersected chlorite altered schists associated with the SAM/MMR geophysical target zones. Radiometric anomalism has been detected in two of the first 6 drill holes and in each case is associated with the centre of the SAM/MMR anomaly being targeted. RC chip samples have been obtained at one metre intervals on each hole and scintillometer readings taken of each drill sample using a RS-125 Spectrometer. Weak to moderate radiometric anomalism was detected in all drill holes with peak readings of 1250cps (counts per second) from 92m in drill hole OBR14-101 and 1500cps detected from 46m in drill hole OBR14-105. Spectrometer field screening indicates that anomalous radioactivity can be attributed to uranium in these intervals. Field screening results are provided as a guide only and are subject to sample variability and the sensitivity of the instrument. Uranium grades cannot be assumed from field screening and results are therefore provided as raw

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Number of Shares:

237M Ordinary Shares  
12.0M Unlisted  
Options

Board of Directors:

Mr John Main  
(Chairman)

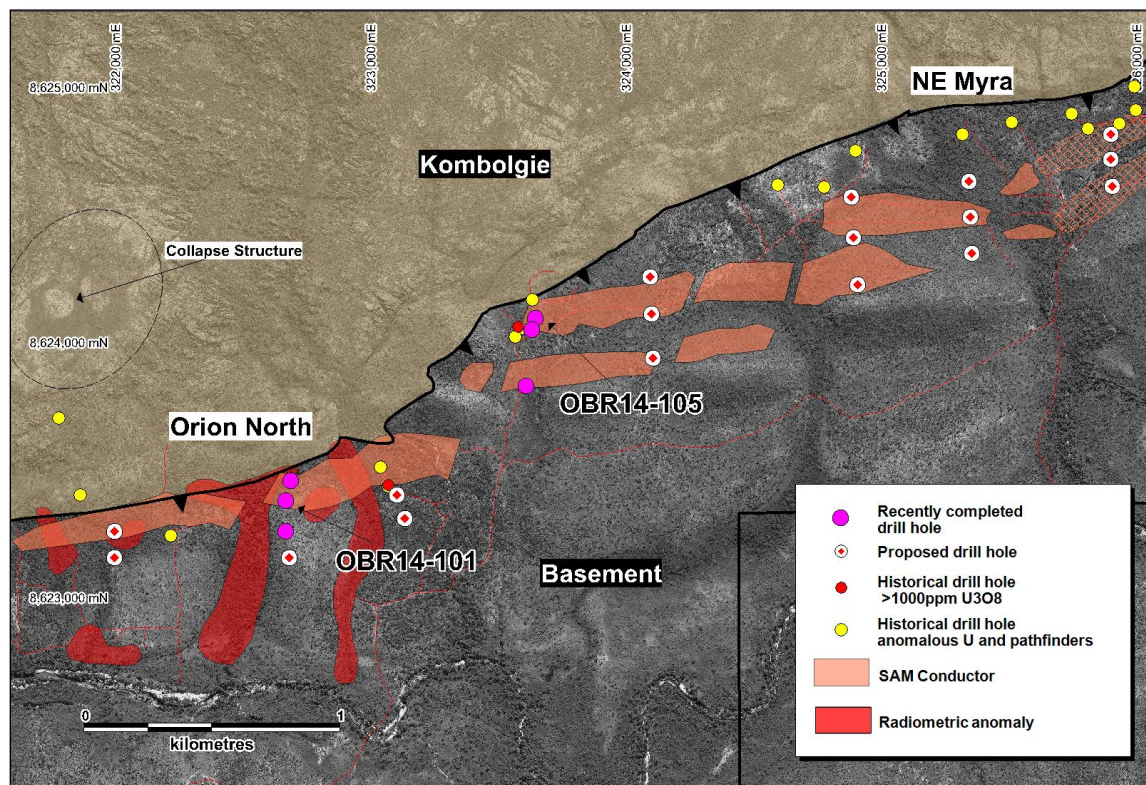
Mr Robert Sowerby  
(CEO, Director)

Mr Paul Dickson  
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Mr Peter McIntyre  
(Non Exec. Director)

Mr Andrew Vigar  
(Non Exec. Director)

cps data. Anomalous samples have been submitted for laboratory analysis and assay results are expected by mid-September. Drill hole locations are provided on Figure 1 and a summary of all drill hole radiometric screening results is provided in Table 1. Drill hole survey information is provided in Table 2.



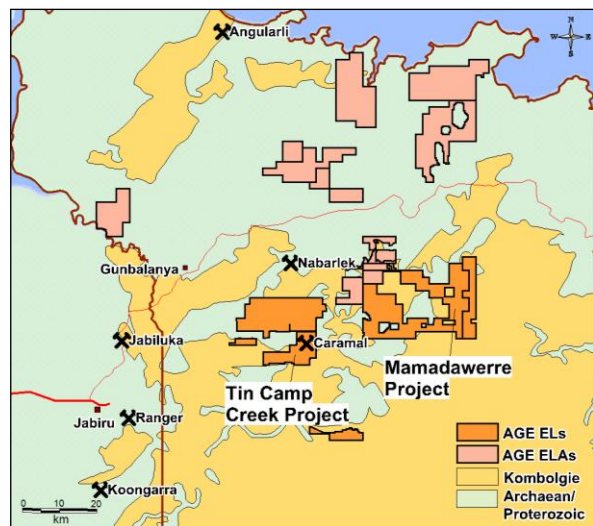
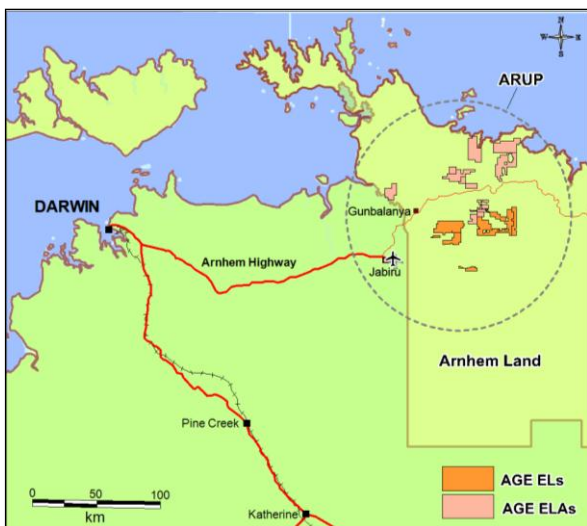
**Figure 1: Location map showing completed drilling at Orion North and holes with >1000cps measured radioactivity**

Alligator considers that these first drill holes for 2014 provide strong encouragement for the current targeting strategy and methodology. Drilling has intersected favourable chlorite schists associated with targeted geophysical anomalies and intersected anomalous uranium although of apparent modest grade and width. Drilling is continuing approximately 2km along strike of these initial drill holes at the NE Myra target area. A further 6 to 9 drill holes will be completed in this area to test the continuation of SAM/MMR anomalies in this area. In particular drilling is targeting a zone that geophysical surveys indicate is characterised by stronger faulting and structural dislocation. A further update will be provided in approximately 7-10 days.

## About Alligator Energy

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 excess 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 1000km<sup>2</sup> 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



### Project Location Diagrams

## FOR FURTHER INFORMATION, PLEASE CONTACT

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**Table 1: Field radiometric screening results**

Drill Hole	Depth From (m)	Depth to (m)	CPS
<b>OBR14-101</b>	0	64	<300
	64	65	320
	65	67	<300
	67	68	350
	68	69	700
	69	91	<300
	91	92	450
	92	93	<b>1250</b>
	93	94	540
	94	95	420
	95	96	450
	96	99	<300
	99	100	400
	100	105	<300
	105	106	370
	106	107	830
	107	108	320
	108	121	<300
	121	122	430
	122	134	<300
	134	135	300
	135	216 (EOH)	<300
<b>OBR14-102</b>	0	104	<300
	104	105	350
	105	107	<300
	107	108	300
	108	134	<300
	134	135	300
	135	150 (EOH)	<300
<b>OBR14-102</b>	0	104	<300
	104	105	350
	105	107	<300
	107	108	300
	108	134	<300
	134	135	300
	135	150 (EOH)	<300
<b>OBR14-103</b>	0	123	<300
	123	124	300
	124	138 (EOH)	<300
<b>OBR14-105</b>	0	34	<300
	34	35	400
	35	37	<300
	37	38	380
	38	39	<300
	39	40	390
	40	46	<300
	46	47	<b>1500</b>



	47	79	<300
	79	80	300
	80	86	<300
	86	87	330
	87	93	<300
	93	94	700
	94	95	900
	95	96	330
	96	121	<300
	121	122	300
	122	186 (EOH)	<300
<b>OBR14-106</b>	0	30	<300
	30	31	320
	31	32	320
	32	33	320
	33	36	<300
	36	37	310
	37	38	320
	38	39	<300
	39	40	330
	40	60	<300
	60	61	320
	61	62	320
	62	69	<300
	69	70	500
	70	82	<300
	82	83	400
	83	89	<300
	89	90	330
	90	93	<300
	93	94	440
	94	137	<300
	137	138	350
	138	149	<300
	149	150	300
	150	151	<300
	151	152	330
	152	180 (EOH)	<300
<b>OBR14-107</b>	0	121	<300
	121	122	300
	122	123	<300
	123	124	330
	124	156 (EOH)	<300

**Table 2: Drill hole survey details**

Hole ID	Prospect	MGA East (actual)	MGA North (actual)	Azimuth (Mag)	Dip	Depth (Final)
OBR14-101	North Orion	322675	8623368	360	-75	216
OBR14-102	North Orion	322677	8623247	357	-75	150
OBR14-103	North Orion	322696	8623446	357	-80	138
OBR14-105	North Orion	323653	8624083	360	-75	184
OBR14-106	North Orion	323640	8624040	360	-70	198
OBR14-107	North Orion	323616	8623818	360	-75	156

## Appendix 1- JORC Code, 2012 Edition

### Tin Camp Creek Project – Drilling update - August 2014.

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>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.</i></li> </ul>	<p>A total of 1,042 samples (1,042 <b>Reverse Circulation (RC)</b> Spear samples) of 1 metre interval drill samples were obtained during the reported phase of work.</p> <p>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.</p> <p>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</p> <p>A Radiation Solutions RS-125 spectrometer was used to measure radioactivity (in counts per second – cps) of each bulk 1m sample. Samples are selected for laboratory based geological observation and radioactivity (cps) relative to background.</p>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	<p>Drilling was undertaken using Reverse Circulation drilling with face sampling bit. The distribution of drilling for these results was 1,042 metres RC</p>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> </ul>	<p>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</p>

	<ul style="list-style-type: none"> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<p>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. 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.</p>
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<p>All chip samples are logged systematically recording lithology, alteration and mineralization. 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.</p> <p>Lithological logging is qualitative, geotechnical logging of drill core has been undertaken quantitatively</p> <p>All (100%) drill intervals have been logged.</p>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>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.</p> <p>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</p> <p>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:</p> <p>Blank sample of unmineralised material (immediately following a mineralised sample) 1 in each hole intersecting a mineralized zone</p> <p>Mineralised duplicate in each drill hole intersection of a mineralized zone.</p> <p>Certified standard for each drill hole intersecting a mineralized zone.</p> <p>Sampling of barren material either side of mineralised zones.</p> <p>RC 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 100°C. 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</p>



		<p>and the residue retained. The pulp sample is then delivered to Bureau Veritas' laboratory in Adelaide.</p> <p>Sample sizes were considered appropriate for the type of material being sampled.</p>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, 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.</i></li> <li><i>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.</i></li> </ul>	<p>A Radiation Solutions RS-125 spectrometer was used to measure radioactivity (in counts per second – cps) of each bulk 1m sample. Samples are selected for laboratory assay based geological observation and radioactivity (cps) relative to background.</p> <p>Geochemical assay of representative samples is being 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 style of mineralisation intersected.</p> <p>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.</p>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<p>Intersections reported for this phase of drilling have not been verified by an external party to date.</p> <p>No twinning of holes has been undertaken</p> <p>Logging, sampling and assay data is recorded and maintained digitally. Physical sample duplicates and core trays are maintained on site.</p> <p>No adjustment of assay data is undertaken</p>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Specification of the grid system used.</i></li> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<p>Current drill hole locations were surveyed using GPS with accuracies of between 1-4 metres</p> <p>All drill holes have been surveyed on Map Grid of Australia 94 (MGA94 Zone 53)</p> <p>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.</p>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish</i></li> </ul>	<p>Drilling during this phase of work has been broad spaced for exploratory purposes to test new structural targets and until significant mineralisation is identified is insufficient to define mineral resources.</p>



	<p><i>the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p> <ul style="list-style-type: none"><li>• <i>Whether sample compositing has been applied.</i></li></ul>	Sample compositing has not been applied.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"><li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li><li>• <i>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.</i></li></ul>	<p>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.</p> <p>No known sampling bias is known to have been introduced by the drilling orientation.</p>
<i>Sample security</i>	<ul style="list-style-type: none"><li>• <i>The measures taken to ensure sample security.</i></li></ul>	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
<i>Audits or reviews</i>	<ul style="list-style-type: none"><li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li></ul>	No audits have been undertaken for this phase of drilling

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"><li>• <i>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.</i></li><li>• <i>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.</i></li></ul>	<p>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 (<b>NLC</b>) on behalf of traditional owners are in place for these tenements in accordance with the Aboriginal Land Rights Act (1976).</p> <p>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.</p> <p>There are no known existing impediments to operating on any tenement within the Tin Camp Creek Project area.</p>



<i>Exploration done by other parties</i>	<ul style="list-style-type: none"><li><i>Acknowledgment and appraisal of exploration by other parties.</i></li></ul>	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).
<i>Geology</i>	<ul style="list-style-type: none"><li><i>Deposit type, geological setting and style of mineralisation.</i></li></ul>	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.
<i>Drill hole Information</i>	<ul style="list-style-type: none"><li><i>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:</i><ul style="list-style-type: none"><li><i>easting and northing of the drill hole collar</i></li><li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li><li><i>dip and azimuth of the hole</i></li><li><i>down hole length and interception depth</i></li><li><i>hole length.</i></li></ul></li><li><i>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.</i></li></ul>	Drill hole survey information is provided in the Table 3 of the ASX release. 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.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"><li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li><li><i>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.</i></li><li><i>The assumptions used for any reporting of metal equivalent values</i></li></ul>	<p>Radioactivity intercepts in cps as reported in Table 1 and 2 of ASX release were aggregated as follows:</p> <p>Where radioactivity exceed 300cps cut-off samples are reported individually.</p> <p>Where radioactivity &lt;300cps intervals are grouped but not averaged.</p>



	<i>should be clearly stated.</i>	
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"><li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li><li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li><li>• <i>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').</i></li></ul>	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.
<i>Diagrams</i>	<ul style="list-style-type: none"><li>• <i>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.</i></li></ul>	Refer Figures 1 and Tables 1, 2 and 3 of ASX release.
<i>Balanced reporting</i>	<ul style="list-style-type: none"><li>• <i>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.</i></li></ul>	<p>All results of significance have been reported within this report.</p> <p>It is important to note that the field screening results reported are provided as a guide only and are subject to sample variability and the sensitivity of the instrument.</p>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"><li>• <i>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.</i></li></ul>	No significant exploration data has been omitted
<i>Further work</i>	<ul style="list-style-type: none"><li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li><li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li></ul>	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.



## 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.