

3<sup>rd</sup> December 2013



## **ASX Announcement**

### **Geophysical interpretation identifies a large de-magnetised zone south of Bundi considered highly prospective for gold and base metal mineralisation**

#### **25,000m drilling program commences at Bundi and Kpali prospects**

Castle Minerals Limited (ASX:**CDT**) is pleased to announce that interpretation of magnetic data from a recently completed helicopter-borne geophysical survey have been received.

This work has identified a distinct NW-SE de-magnetised zone that may have resulted from the destruction of magnetite due to alteration. This zone is considered highly prospective for gold and base metal mineralisation. A number of co-incident magnetic and conductivity anomalies have also been identified that represent high priority drill targets.

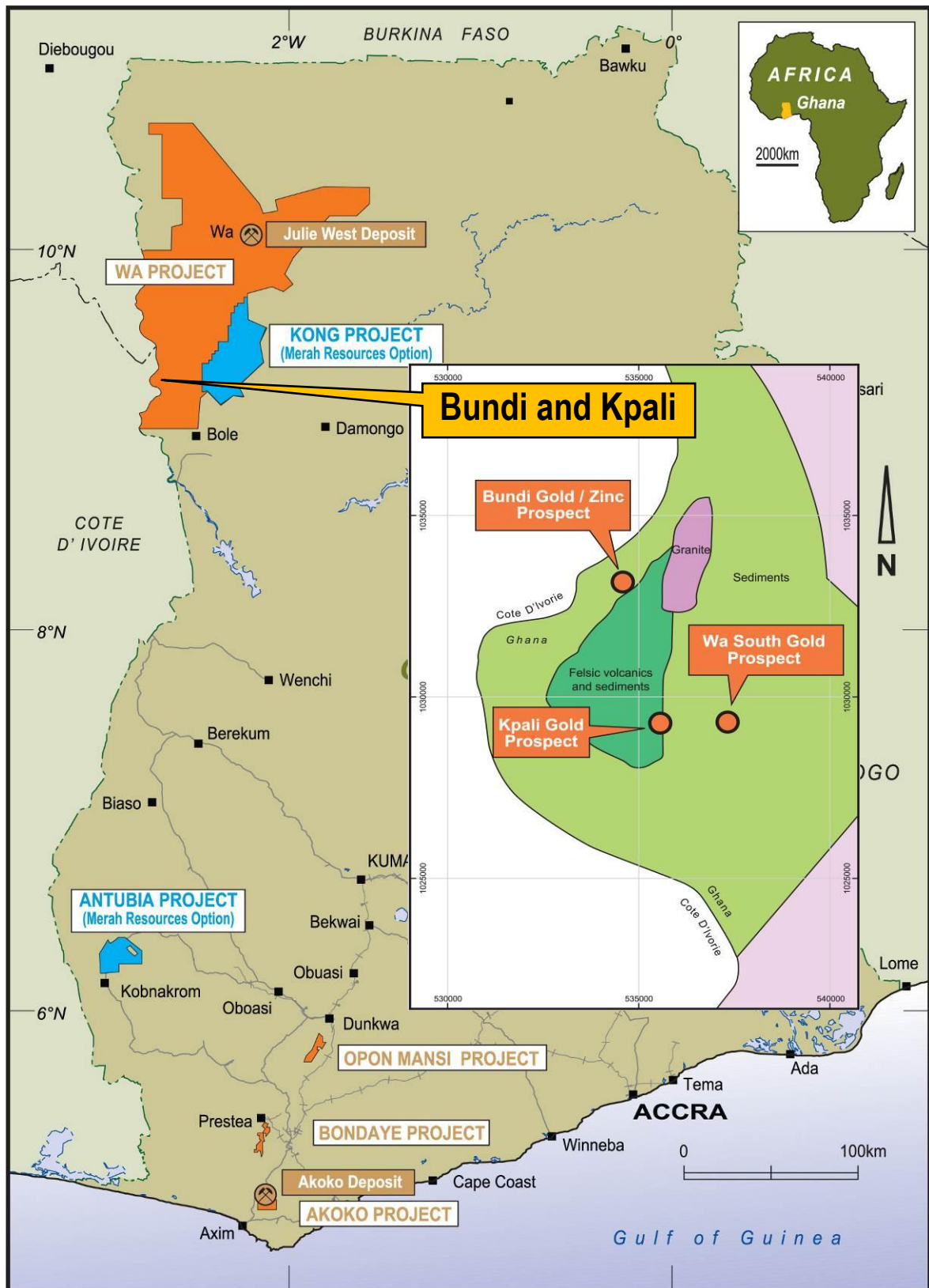
Castle's Managing Director Mr Mike Ivey said "in addition to the Bundi and Kpali discoveries we made this year, the identification of this de-magnetised zone provides a new +5km long target zone that will be subject to immediate drill testing and significantly increases the potential for additional gold/zinc discoveries to be made."

An initial phase of approximately 25,000m of RAB and RC drilling is proposed with RAB drilling underway and RC drilling contracted to start next week. RC drilling will be carried out by Ausdrill Limited's subsidiary African Mining Services (AMSG). Castle has agreed to issue to Ausdrill, shares for 50% of the drill costs (up to a maximum of USD\$150,000 at AUD \$0.035 cents).

#### **Background**

Bundi and Kpali are grassroots gold discoveries made by Castle in 2013 in a previously unexplored area. Bundi is a 1,100m long zone that has reported high grade gold and zinc mineralisation from RC drilling. Kpali is 4km south of Bundi and is a 650m long gold anomaly defined by 100m spaced RAB traverses and 3 RC holes.

A VTEM and Magnetic/Radiometric Airborne survey was flown by Geotech Airborne Limited over the Bundi and Kpali prospects during August 2013. The survey aimed to define anomalies indicative of bedrock conductors with potential to represent massive sulphide associated with the Bundi zinc sulphide mineralisation discovered by Castle. This is the first survey of this type in the area and is designed to identify structures, magnetic and geological units associated with the Bundi and Kpali gold mineralisation.



Ghana exploration Projects and location of Bundi and Kpali prospects in NW Ghana

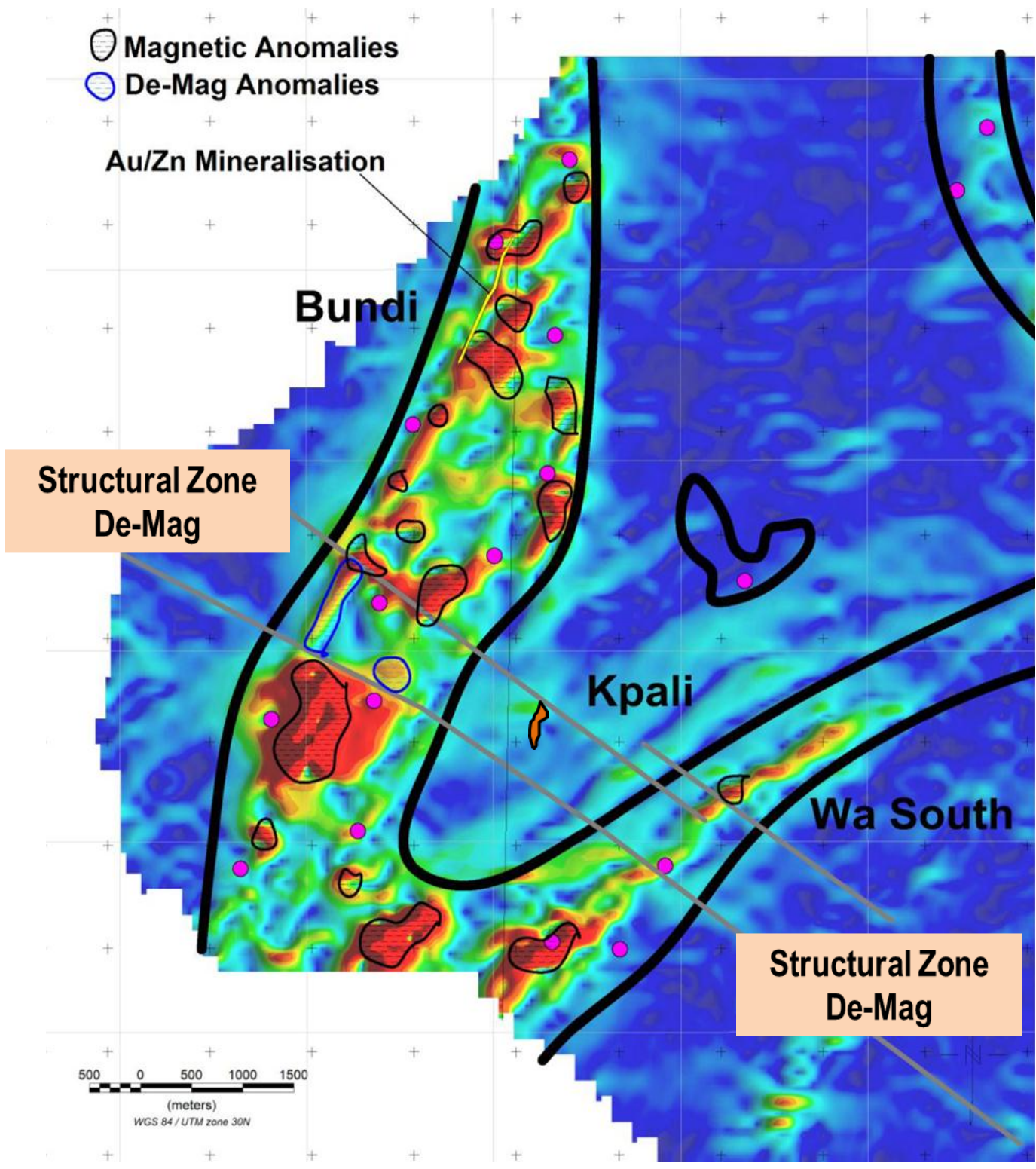
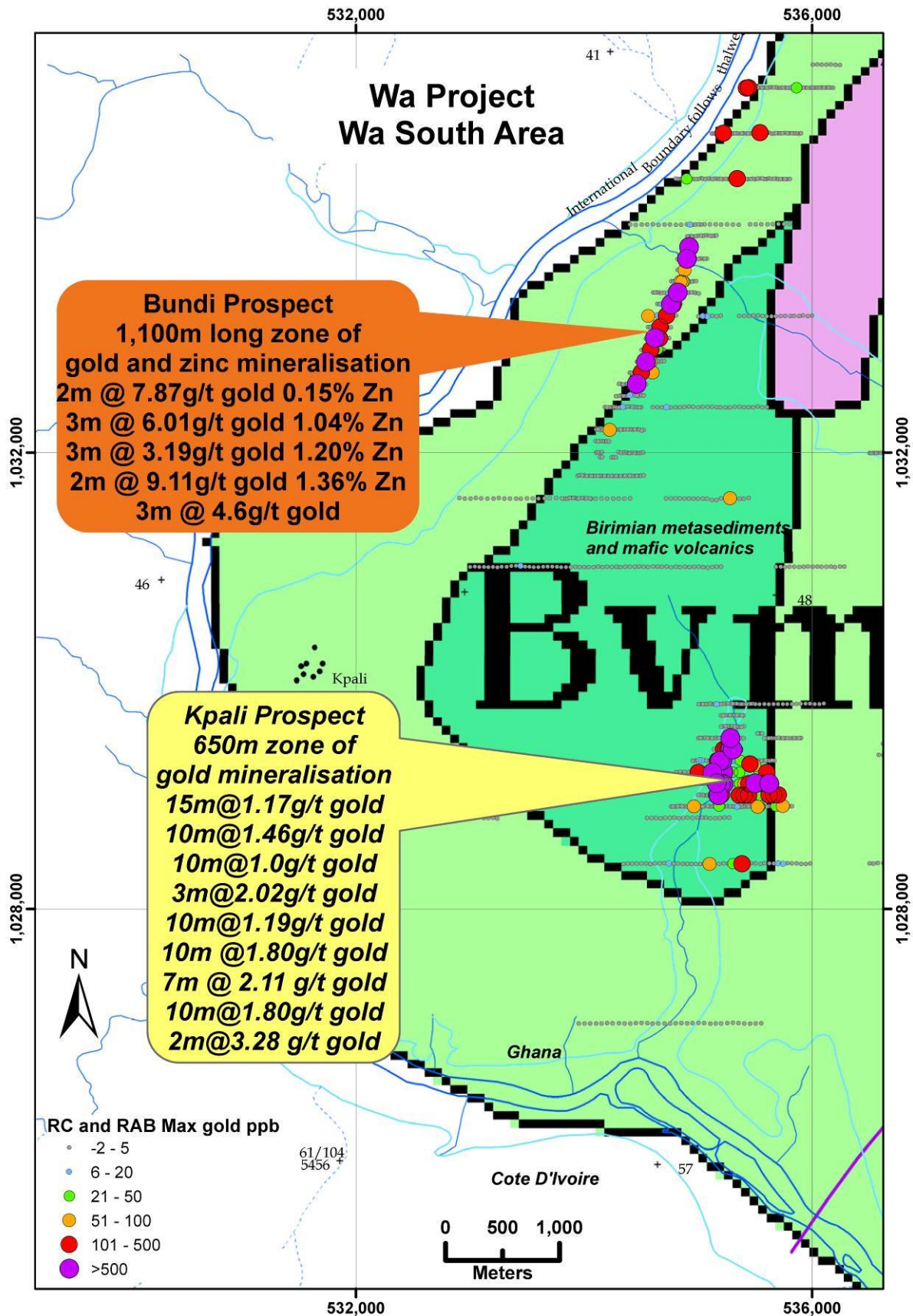
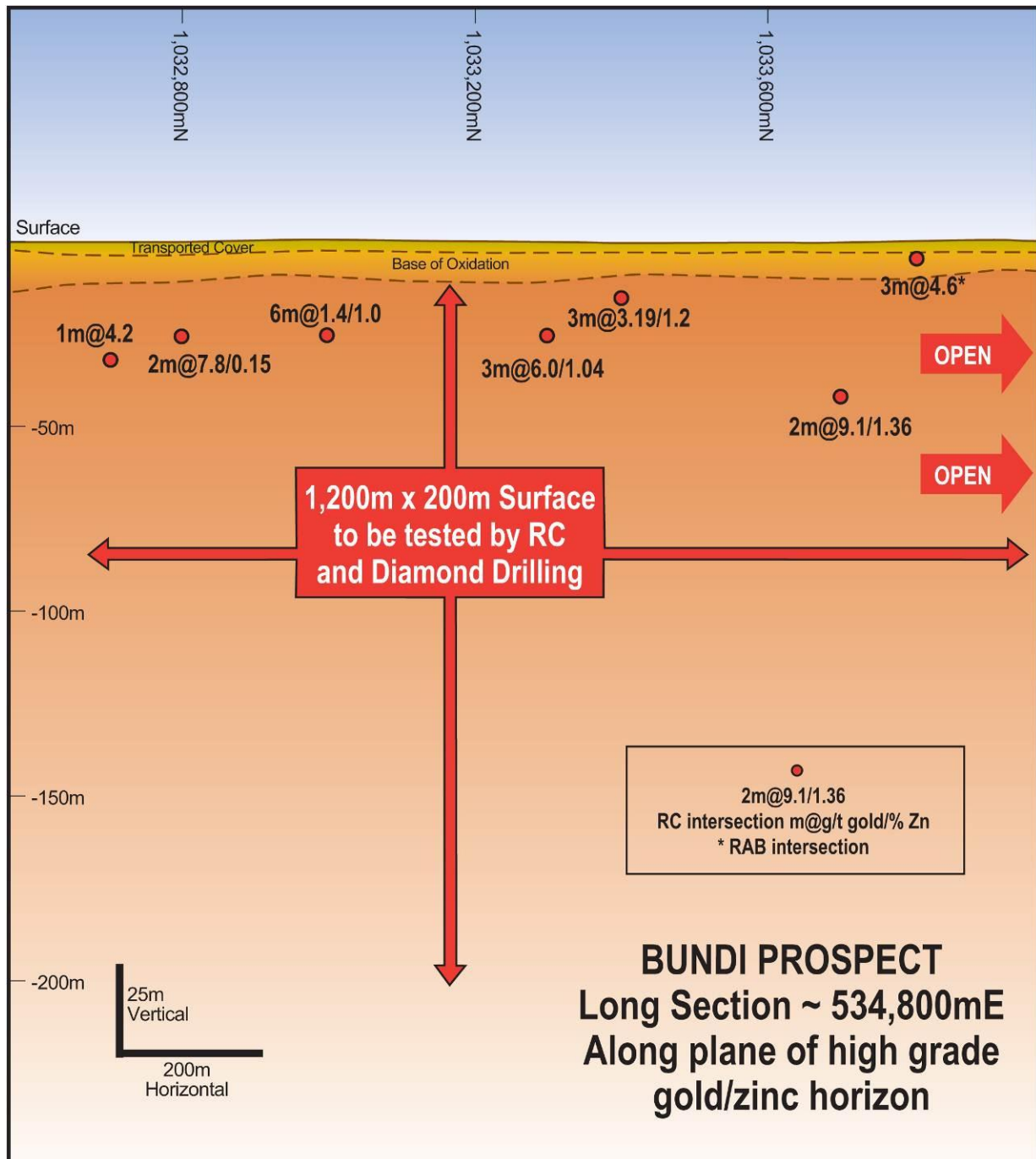


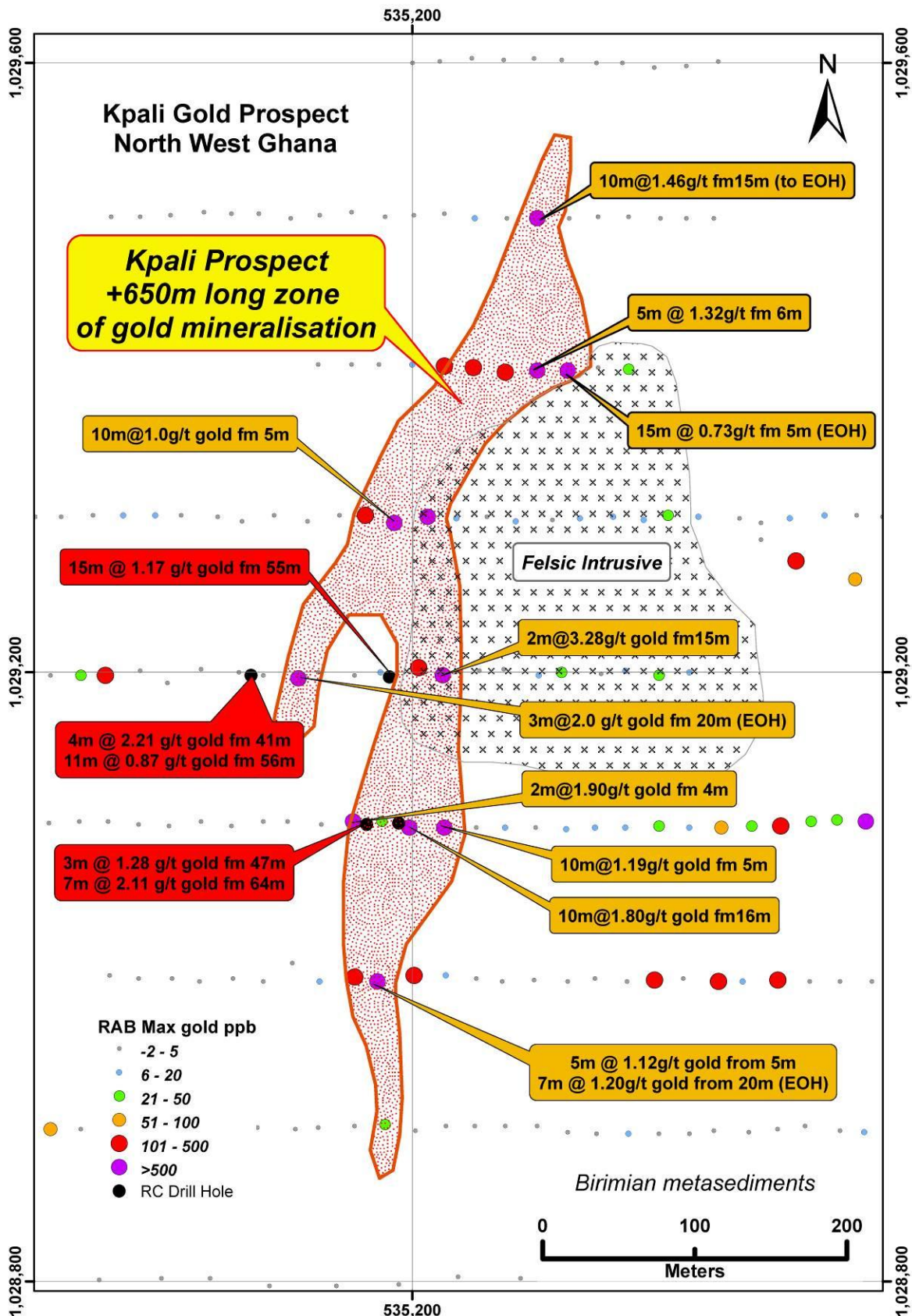
Image of Horizontal Gradient Magnitude (HGM) filter showing +5km distinctive NW-SE de-magnetised zone, possibly caused by destruction of magnetite due to alteration. Considered highly prospective for gold and base metal mineralisation



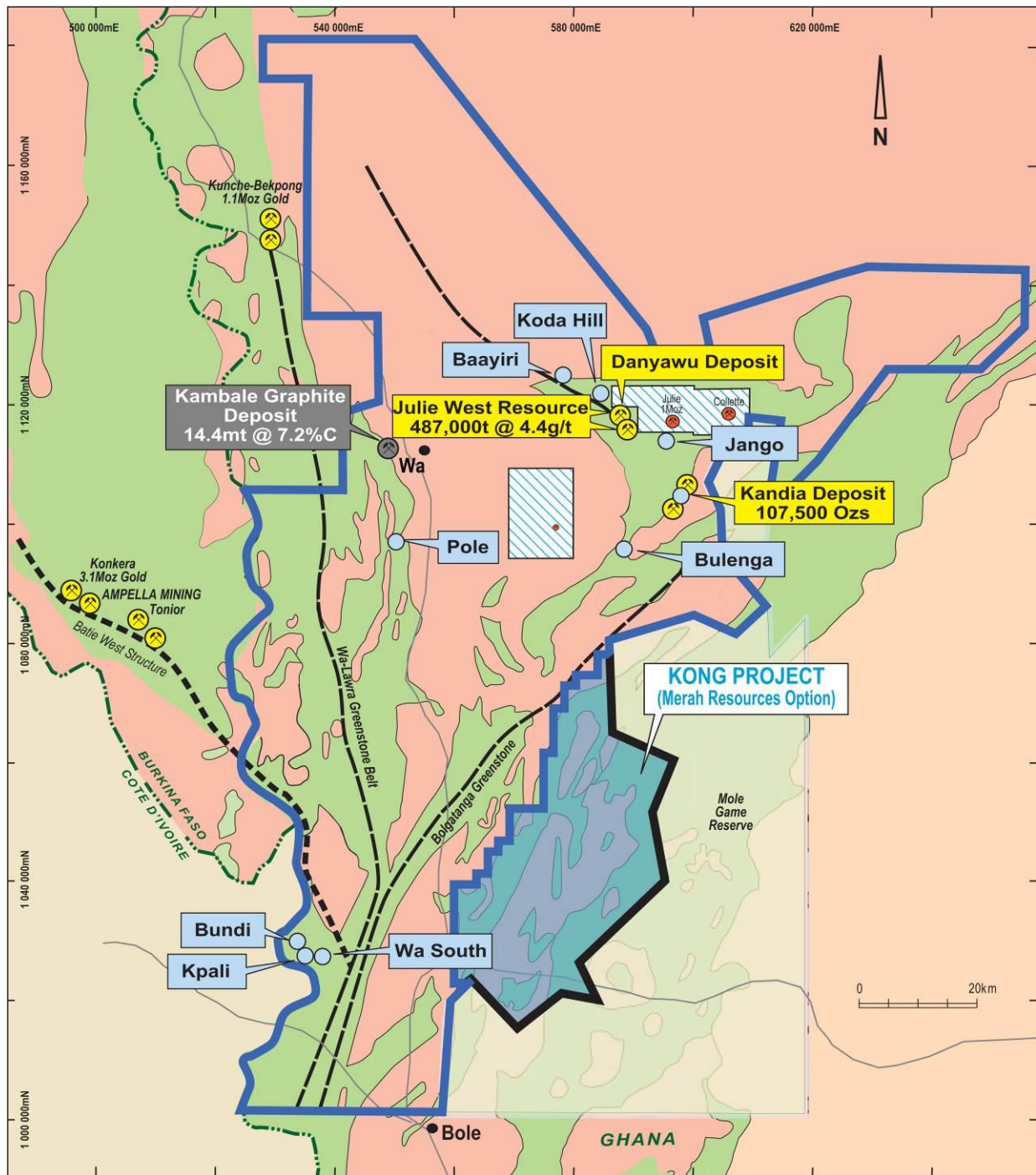
Location and drill hole plan for Bundi and Kpali with significant drill results. To date Bundi has been tested with only nine RC holes and four RC holes have been drilled at Kpali. The proposed drill program will test the VTEM targets generated plus aims to establish maiden resources at both prospects



Long section above shows RC drill pierce points along the 1,200m mineralised surface at Bundi that is proposed for RC drilling. Bundi hosts high grade gold mineralisation along with zinc sulphide mineralisation which is a very unusual association and is not known to exist elsewhere in Ghana



Drill hole plan for Kpali gold mineralisation that has to date been tested by only four RC holes. RC drilling is proposed to test the full 650m strike extent of the gold mineralisation as defined by shallow RAB drilling



Prospect locations for Castle's Wa Project in North West Ghana

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## About Castle:

Castle Minerals listed on the Australian Stock Exchange in May 2006 (ASX code 'CDT') and has five mineral projects in Ghana, West Africa including Akoko, Antubia, Bondaye, Opon Mansi (application) and Wa covering more than 11,000km<sup>2</sup>.

The Wa and Akoko projects are 100% owned by Castle Minerals (subject to Ghanaian Government right to a free-carried 10% interest). Bondaye and Opon Mansi are applications and the Kong and Antubia Projects are subject to a sale agreement with Merah Resources (ASX: MEH). Castle's corporate objectives are exploration and development of its projects in Ghana and the acquisition and exploration of other mineral resource opportunities, particularly in West Africa. The country of Ghana has a long history of gold mining and exploration and is Africa's second largest gold producer behind South Africa.

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### COMPETENT PERSONS STATEMENTS

*The Information in this report that relates to Exploration Results is based on information compiled by Mr Haydn Hadlow, Castle Minerals Limited Exploration Manager, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hadlow is a permanent employee of Castle Minerals Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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 Hadlow consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The Helicopter-borne survey was completed by Geotech Limited (Canada) with interpretation of magnetic data by Bill Robertson of Value Adding Resources Pty Ltd (Perth), and VTEM data by Brett Adams of Spinifex Geophysics (Perth).*



**JORC Code, 2012 Edition – Table 1**  
**Section 1: Sampling Techniques and Data**

Criteria	JORC Code explanation	Certified Person Commentary
<b>Sampling techniques</b>	Nature and quality of sampling (e.g. 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.	Sampling has been undertaken with Reverse Circulation (RC) drilling and Rotary Air Blast (RAB) drilling.  Zinc assaying of RC and RAB samples has been undertaken using a hand held XRF.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Drill hole collar coordinates are in UTM grid (UTM WGS84 Zone 30N) are measured by handheld GPS with accuracy of +/-2m.
	Aspects of the determination of mineralisation that are Material to the Public Report.	As per section below.
	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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Reverse Circulation (RC) drilling was used to obtain 1m samples from which 2kg was riffle split, in anticipation of being sent to the lab and pulverised to produce a 50g charge for fire assay for gold assaying. 5m composite samples were then taken and sent to the lab first to identify the mineralised zones in each drill hole. The 1m splits in the mineralised zones were then sent to the lab for assay from the zones where the 5m composites assayed >0.1g/t.  Rotary Air Blast (RAB) drilling was used to obtain 1m open-hole samples, from which 5m composite samples were taken and sent to lab where 2kg was pulverised and assayed by 50g aqua regia for gold.
<b>Drilling techniques</b>	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).	RC drilling has been conducted using a face sampling hammer, and stainless steel starter rods to enable downhole surveying of the hole.  RAB drilling has been conducted using a blade bit, usually to depth of refusal at the fresh rock interface. A hammer bit was used to penetrate any quartz veins encountered, or occasionally to penetrate and sample the fresh bedrock if required.
<b>Drill sample recovery</b>	Method of recording and assessing core and chip sample recoveries and results assessed.	No methods for ascertaining RC or RAB sample recoveries have been conducted. On the whole sample recoveries were good, with large samples recovered, and with only low levels of groundwater intersected to date.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	No special measures have been undertaken – standard industry drilling techniques have been applied.
	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.	This relationship has not been tested, as it is not believed to be a concern.
<b>Logging</b>	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.	RC and RAB chip samples have been routinely geologically logged and photographed in the field by geologists. The day's drilling plod sheets, and the collar, survey, logging and sampling data, were checked by the Senior Geologist, and sent to the Perth office each evening for loading into the company database.  No specific geotechnical or metallurgical logging has been undertaken on the RC or RAB drill samples to date.
	Whether logging is qualitative or quantitative in	Logging includes noting lithology, colour, weathering,

	nature. Core (or costean, channel, etc) photography.	grain size, structure, alteration, sulphide mineralisation, and veining.  Each RC chip tray (10m) is photographed.  The sample piles, and washed chips, of each complete RAB hole are photographed.
	The total length and percentage of the relevant intersections logged.	Every metre sample from every hole has been logged individually.
<b>Sub-sampling techniques and sample preparation</b>	If core, whether cut or sawn and whether quarter, half or all core taken.	No core drilling to date.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	1m RC samples riffle split.  5m RC composites tube sampled from each RC retention bag after 1m riffle split sampling completed.  5m RAB composite samples scooped from several places from each 1m sample pile.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Riffle splitting of 1m RC samples is standard industry practice, and considered appropriate for resource level work in this deposit style.  5m composites in RC and RAB drilling is considered appropriate for first-pass work to indicate the presence of mineralisation, in anticipation of subsequent follow up drilling and sampling.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Every 50 <sup>th</sup> RC and RAB sample is taken as a duplicate sample.
	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.	Analysis of duplicate results has not raised any concerns about sample quality to date.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	To date both the grainsize of the rocks and the gold mineralisation, are considered relatively fine. There is not believed to be any “coarse gold” issue, and the chosen sampling techniques are considered appropriate.
<b>Quality of assay data and laboratory tests</b>	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	All RC samples were submitted to <b>Intertek</b> Laboratory in Tarkwa, Ghana, for 50g Fire Assay analysis for Au. Preparation was by drying, crushing to 75% passing 2mm, then <2kg riffle split pulverised to nominal 95% passing 75µm in a LM2 mill (lab method PT01). Analysis method was 50g Fire Assay for Au, with Flame AAS finish, 0.01ppm detection limit (lab method “FA51”).  All RAB gold samples were submitted to <b>Intertek</b> Laboratory in Tarkwa, Ghana, for 50g Aqua Regia analysis for Au. Preparation was by drying and pulverising <2kg to nominally 95% passing 75µm in LM2 mill (lab method “PT01”). Analysis method was 50g Aqua Regia for Au, with AAS finish, 1ppb detection limit (lab method “AR50”).  Both assay techniques are considered as total. Results were sent by email as “csv files” to the Wa and Perth offices.  QAQC sample results (blanks, standards and duplicates) were checked and any problems were communicated and addressed with the lab before results were entered into the Castle database.  63 Bundi zone RAB pulps, chosen from in and around the anomalous gold zones, were sent to Bureau Veritas Mineral Laboratories in Abidjan for multi-element geochemistry by ICP (Mixed Acid Digest with ICP-AES Finish – method code MA101).

	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.	Zinc analysis was completed on one metre bagged RC split samples (before they were sent off to the lab for gold assaying) using a handheld portable XRF machine (Niton model XL3t). Reading times were 60-90 seconds. Multiple readings were taken from anomalous zinc zones to confirm analysis. Results were verified using the supplied Niton XRF standards, and samples of known zinc value sourced from conventional laboratory analysis of Bundi RAB samples.  The 2013 Helicopter-borne Magnetics, Radiometrics and VTEM surveys was completed by Geotech Limited (Canada) on 200m spaced E-W lines, with interpretation of magnetic data by Bill Robertson of Value Adding Resources Pty Ltd (Perth), and VTEM data by Brett Adams of Spinifex Geophysics (Perth).
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Duplicate samples were taken every 50 <sup>th</sup> sample. Blank samples (obtained from a stone quarry near Wa) were inserted every 20 <sup>th</sup> sample. Standards (from Geostats in Perth) were inserted every 50 <sup>th</sup> sample. QAQC analysis and reporting has not highlighted any areas of concern.
<b>Verification of sampling and assaying</b>	The verification of significant intersections by either independent or alternative company personnel.	RAB holes with good intersections are usually confirmed by drilling RC holes under them.  RC 5m composite samples with good assays are confirmed by assaying the 1m split samples from the same zones.
	The use of twinned holes.	No holes have been twinned to date.  RC holes have been drilled intentionally following up good results encountered in RAB drilling, and have confirmed the occurrence of mineralisation in the RAB holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	The daily drilling plod sheets, and the collar, survey, logging and sampling data, were checked by the Senior Geologist, and sent to the Perth office each evening for loading into the company database.  Lab assay results were sent by email as "csv files" to the Wa and Perth offices. QAQC sample results (blanks, standards and duplicates) were checked and any problems were communicated and addressed with the lab before results were entered into the Castle database.
	Discuss any adjustment to assay data.	There has been no adjustment to assay data.
<b>Location of data points</b>	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.	Drill hole collar coordinates are in UTM grid (UTM WGS84 Zone 30N) are measured by handheld GPS with accuracy of +/-2m.  RC holes were downhole surveyed using stainless steel rods at the end of the drill string and a Reflex Ezi Shot tool provided by the drillers. Down hole surveys were taken at the collar, halfway down the hole, and at end-of-hole.
	Specification of the grid system used.	UTM grid (UTM WGS84 Zone 30N) used exclusively
	Quality and adequacy of topographic control.	The topography in the area is largely flat. No other relative level (RL) control was used other than handheld GPS measurements, which in RL may be accurate to +/-20m.
<b>Data spacing and distribution</b>	Data spacing for reporting of Exploration Results.	RAB spacing ranged from 100m to 200m lines, and 20m to 40m collar spacing.  RC spacing to date is largely single holes on 100m or

		200m spaced sections, to follow up encouraging RAB results.  The 2013 Helicopter-borne Magnetics, Radiometrics and VTEM survey was completed on 200m spaced E-W lines.
	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.	Further RC drilling at closer spacing is required before Mineral Resource classifications can be applied.
	Whether sample compositing has been applied.	RC intercepts reported are from 1m splits.  RAB intercepts reported are from 5m composites.
<b>Orientation of data in relation to geological structure</b>	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Both the Bundi and Kpali mineralised structures appear to be striking N to NNE, and dipping steeply to the west. The drilling azimuth of 090 appears to be appropriate at both prospects.
	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.	There is not considered to be any significant sampling bias from current information.
<b>Sample security</b>	The measures taken to ensure sample security.	Samples are systematically numbered and recorded, bagged in labelled polyweave sacks, and dispatched in batches to the lab using local transport. The lab confirms receipt of all samples on the submission form on arrival at the lab.
<b>Audits or reviews</b>	The results of any audits or reviews of sampling techniques and data.	No audits or reviews of sampling techniques have been conducted.  Analysis of performance of QAQC samples for the 2012-2013 field season has been reported by consultant Database Manager, Joe Reid, with no issues highlighted.

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Certified Person Commentary
<b>Mineral tenement and land tenure status</b>	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.	All the work contained in this report has been conducted on the 100% owned <b>Degbiwu Prospecting Licence, granted on 30 April 2012</b> , part of the Wa Project in NW Ghana. The Wa Project is 100% owned by Carlie Mining Limited (subject to Ghanaian Government right to a free-carried 10% interest). Carlie Mining is a 100% owned subsidiary of Castle Minerals Limited.
	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.	The concession is in good standing, and no known impediments exist.
<b>Exploration done by other parties</b>	Acknowledgment and appraisal of exploration by other parties.	No previous exploration data is known from the immediate Degbiwu PL area, apart from wide-spaced regional BLEG sampling by Newmont, and regional geological mapping by Russian geologists in the 1960s.
<b>Geology</b>	Deposit type, geological setting and style of mineralisation.	Castle is exploring for mesothermal gold deposits in the Birimian host-rocks of NW Ghana. The highly anomalous levels of zinc in the Bundi Au-Zn prospect has highlighted there may also be potential for base metal (possibly VHMS-style) deposits in the Degbiwu area.
<b>Drill hole Information</b>	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:  ○ easting and northing of the drill hole	Appropriate tabulations for all significant RC and RAB results in the Degbiwu PL area have been included in previous announcements to the ASX about Bundi and Kpali prospects:  22 <sup>nd</sup> April 2013

	<p>collar</p> <ul style="list-style-type: none"> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul>	<p>6<sup>th</sup> May 2013</p> <p>20<sup>th</sup> May 2013</p> <p>23<sup>rd</sup> May 2013</p> <p>24<sup>th</sup> May 2013</p> <p>17<sup>th</sup> June 2013</p> <p>4<sup>th</sup> July 2013</p>
	<p>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.</p>	<p>Appropriate tabulations for all significant RC and RAB results in the Degbiwu PL area have been included in previous announcements to the ASX.</p>
<b>Data aggregation methods</b>	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated</p>	<p>Intercept results are arithmetic averages if 1m splits, and weighted averages if unequal composite lengths are included.</p> <p>No top cuts are applied.</p> <p>RC intercepts are reported above 0.5g/t, unless there is geological reason (i.e. demonstrable continuity of the mineralisation and alteration) to include internal zones of lower assays to &gt;0.2g/t.</p> <p>RAB assay intercepts are generally reported above 0.1g/t.</p>
	<p>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.</p>	<p>Higher-grade internal zones within a broader mineralised zone may be reported if there is one or more unusually high grades in an otherwise consistent zone.</p>
	<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>No metal equivalence used or stated.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>These relationships are particularly important in the reporting of Exploration Results.</p>	<p>The RC holes are drilled at -60 to 090 (E), and the RAB holes are drilled at -50 to 090.</p>
	<p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p>	<p>From interpretation of available data, it is believed that on average the strike of mineralisation is N-NNE, and dipping steeply W.</p>
	<p>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').</p>	<p>Only the downhole lengths are reported.</p> <p>The true width is not precisely known at this time.</p>
<b>Diagrams</b>	<p>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.</p>	<p>See diagrams in this, and previous, announcements.</p>
<b>Balanced reporting</b>	<p>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.</p>	<p>Appropriate tabulations for all significant RC and RAB results in the Degbiwu PL area have been included in previous announcements to the ASX.</p>
<b>Other substantive exploration data</b>	<p>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</p>	<p>No other material exploration data to report at this time.</p>

	contaminating substances.	
<b>Further work</b>	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work planned as stated in this announcement.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See diagrams in this announcement.