# **September 2012 Quarterly Report**



# **Highlights**

Wa Project

- New Gold targets identified at Wa South including two parallel trending gold zones approximately one kilometre apart and new 800m long Bundi auger anomaly
- New 3km long gold anomaly identified in Tarkwaian rocks at Kandia West
- Numerous pipe-like geophysical signatures identified on Wa Project
- RC drilling planned for Danyawu Prospect following up high grade gold intercepts in preparation for mineral resource estimate
- 40,000m RAB program planned to commence end of October
- Maiden resource announced for Kambale Graphite deposit and metallurgical testwork confirms good flake recoveries

## Akoko Project

 Soil sampling and pitting program completed testing 5km corridor south along strike from the old Akoko Mine

#### **Corporate**

- End of quarter cash position of \$2.65m
- Annual General Meeting to be held 15 November 2012

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Capital Structure Quoted Shares: 113.7 million Unlisted Options: 1.05m @ 40c

**ASX Code: CDT** 

Board Members Michael Ashforth Non Executive Chairman

Michael Ivey Managing Director & CEO

> Campbell Ansell Non Executive Director

> > Des Kelly Company Secretary

# Wa Project (Castle Minerals 100%)

Quarterly exploration activities were focussed on the Company's extensive Wa Project (10,000km<sup>2</sup>) in north west Ghana concentrating on four regional scale highly prospective gold corridors known as;

Julie-Jang Trend
 50km long trend that includes the Baayiri discovery

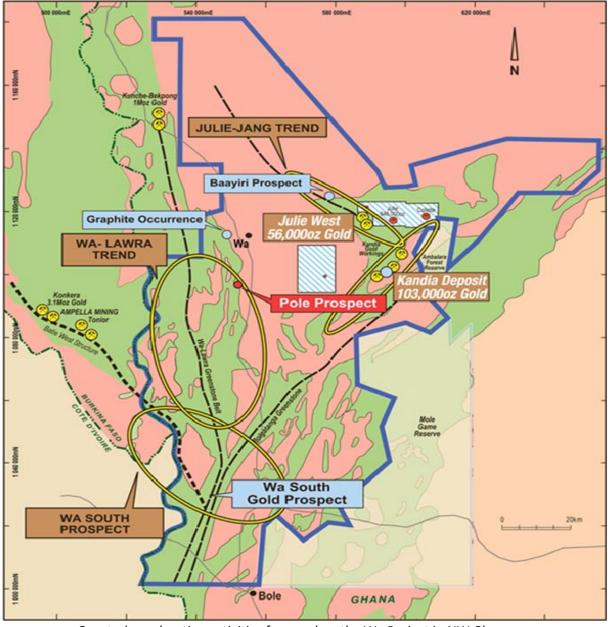
Kandia Trend
 30km corridor of anomalous gold in soils

Wa South (Batie West trend)
 60km long corridor on intersection of two greenstone belts

• Wa-Lawra Greenstone Belt 80km of untested greenstone belt stratigraphy (includes

Kambale graphite deposit)

The focus for the 2012/13 year is to achieve our ultimate goal of defining sufficient standalone gold resources capable of commercial development. Further RC drilling at the high grade Danyawu gold prospect is planned before year end to allow a maiden resource to be established. Castle's own RAB rig, located in Wa is scheduled to complete approximately 40,000m of drilling in the 2012/13 season at less than one third of contract rates.



Quarterly exploration activities focussed on the Wa Project in NW Ghana

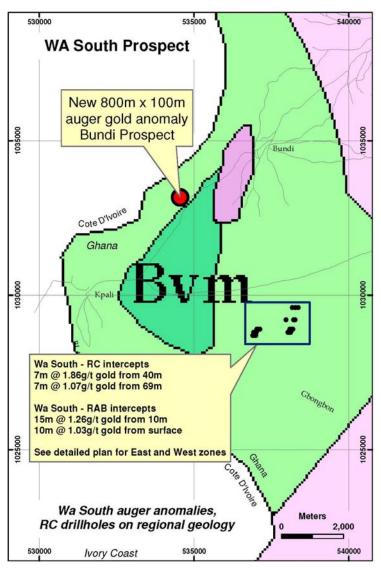
### Wa South Prospect

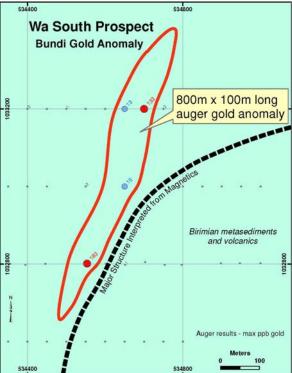
RAB drilling results received during the quarter at Wa South has confirmed **two parallel trending gold zones** approximately one kilometre apart.

This represents the first known gold mineralisation in the area and was discovered through soil sampling, auger drilling and RAB and RC drill testing. The east mineralised corridor is accompanied by a wide zone of pyrite alteration within the host sediments.

The gold mineralisation was discovered beneath a 2-3m blanket of transported gravels that covers much of the area. RAB drilling testing both zones is proposed to commence before year end to determine the extent of the near surface gold mineralisation.

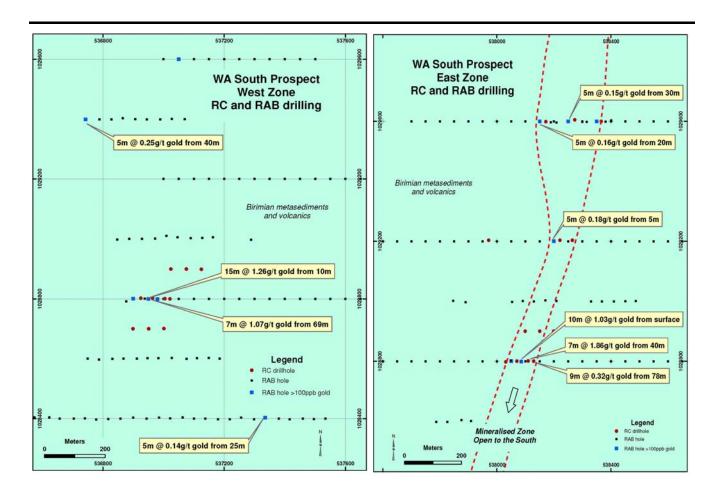
In addition, regional auger drilling 5km north-west has defined the **new 800m long Bundi prospect** that is the strongest auger anomaly reported to date at Wa South. First drill testing at Bundi is planned to be completed in Q4 2012.



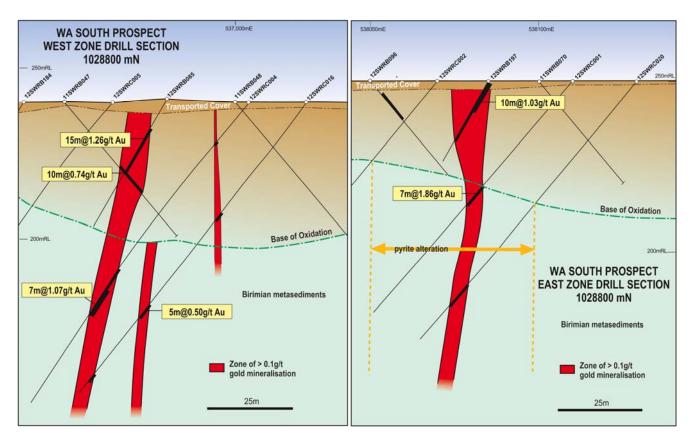


Plan of Wa South prospect showing new Bundi prospect and location of RC drilling that has intersected oxide and primary gold mineralisation in Birimian metasediments in two mineralised corridors.

The Bundi anomaly is the strongest auger anomaly reported to date at Wa South and RAB drilling is proposed to be completed in Q4 2012.



RAB and RC drilling at Wa South testing two parallel gold corridors approximately 1km apart. This represents the first known gold mineralisation in the area and was discovered through soil sampling, auger drilling and RAB and RC drill testing by Castle.

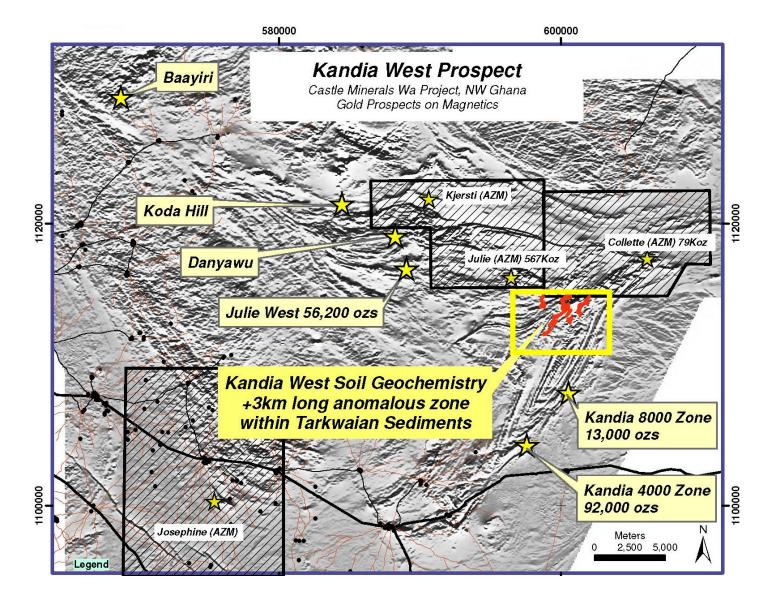


Drill cross section through west and east gold corridors at Wa South

### **Kandia West Prospect**

Soil geochemical sampling at the Kandia West prospect has identified multiple gold anomalies over a 3km long corridor. This is a new gold target that will be subject to detailed exploration and drilling.

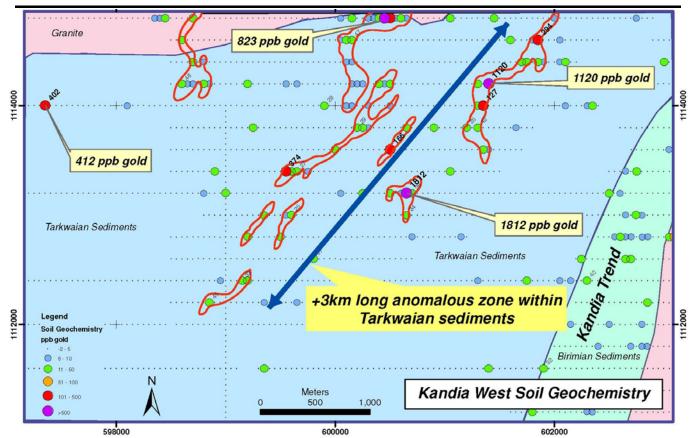
The anomalies are interpreted to be underlain by a sequence of Tarkwaian conglomerates and sandstones that elsewhere in Ghana are prominent hosts to gold mineralisation. At Kandia West the anomalies occur in a north-east trending structural corridor that trends into known gold mineralisation at the Collette prospect (ASX: AZM)<sup>1</sup> four kilometres north-east.



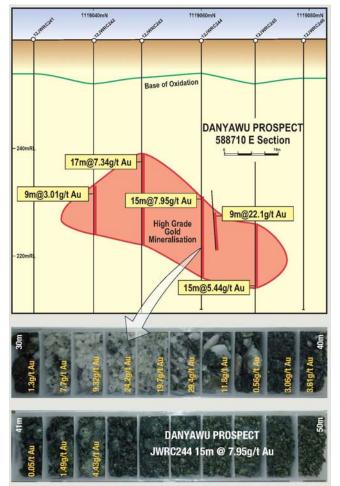
Portion of Wa Project in north-west Ghana showing gold prospects and new Kandia West gold anomalies

Mapping indicates that the Kandia West prospect area is underlain by arenaceous rocks, sandstones, grits and wackes with lithic fragments in places and relict cross beds. Coarser layers and crossbeds include strongly magnetic (magnetite) layers that explain the strong geophysical response. The rocks are interpreted to be Tarkwaian. Despite good outcrops in places, most of the area is flat and soil covered.



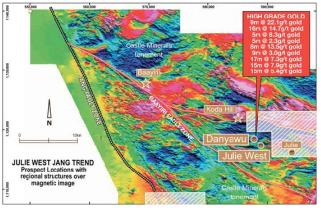


Kandia West soil geochemical anomalies and interpreted geology



#### **Julie West Prospect**

RC drilling during 2012 confirmed a new zone of high grade gold mineralisation at the Danyawu prospect. This is the second shallow high grade gold deposit discovered by Castle at the Julie West prospect. These deposits offer high value ounces and with the new vein geometry offers additional targets within the broader Julie West area. RC and RAB drilling is being planned towards establishing the extent of the mineralisation and allowing a maiden resource to be estimated.



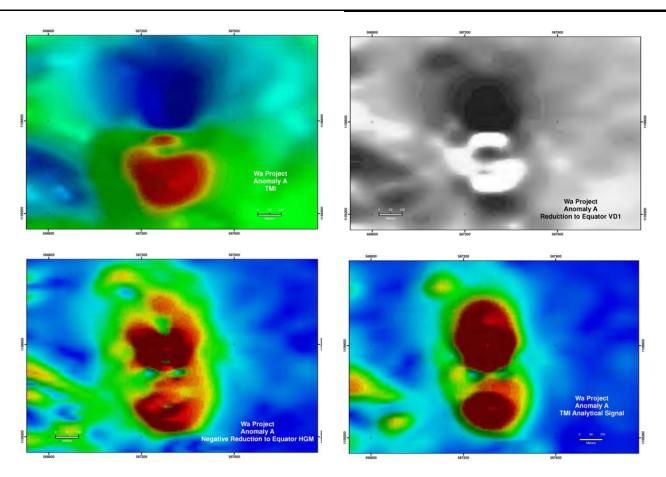
Left; cross section through Danyawu deposit and right Julie West - Jang Trend showing significant Danyawu RC results over magnetic image

## Circular Aeromagnetic Anomalies Identified on Wa Project

Interpretation of a detailed aeromagnetic survey flown by the Company on its Wa Project in north-west Ghana has identified numerous discrete circular features that may represent intrusive pipes. Rock types that are known to occur as discrete pipes of this scale include kimberlite, lamproites and carbonatite pipes. Kimberlites and lamproites are the major source of the world's diamonds and carbonatites may host significant rare earth element mineralisation.

Field inspection showed that the anomalies are soil covered - this is consistent with expectations as these rock types are relatively soft and often have a 'negative' relief due to the effects of weathering. 8 high priority discrete features have been selected for initial drill testing (refer Figure Exploration drilling will commence shortly. Area of geophysical survey 600000 610000 1120000 Wa Project **Circular Magnetic Anomalies Total Magnetic Intensity** 560000

RC drilling on imaged soil geochemistry showing significant gold intercepts at Danyawu



Aeromagnetic images for Anomaly A - interpreted to be an intrusive pipe. Drill testing is proposed for each of the initial eight pipe-like targets to determine the source of the magnetic anomalies.

### **Akoko Project**

Gold exploration at the Akoko Project on the Ashanti Belt in southern Ghana commenced this month testing a 5km corridor south along strike from the old Akoko Mine (historic production 28,000 ozs). Soil and pit sampling generated 394 samples that have been submitted for analysis. Results are awaited.

#### **Kambale Graphite Deposit**

During the quarter Castle announced a maiden resource estimate for its Kambale Graphite Deposit just four months after the first exploration hole was drilled. An Inferred Resource of 14.4mt @ 7.2% C (graphitic carbon) for 1.03mt contained graphite was estimated and includes 6.0mt @ 8.6% C for 0.52mt contained graphite.

Kambale Deposit July 2012 Inferred Mineral Resource Estimate (5% C cut-off grade)

Туре	Tonnes Mt	C %	Contained C t
Oxide	3.4	7.1	243,000
Fresh	11.0	7.2	793,000
Total	14.4	7.2	1,036,000

\*Errors may occur due to rounding

The Resource consists of 3.4mt @ 7.1% C of oxide and 11.0mt @ 7.2% C primary graphite and is calculated within the first one kilometre of strike drilled. Subsequent to the resource being estimated drilling has doubled the known graphite strike. New drill intercepts since the announcement of the maiden resource in July 2012 include;

KBRB 76	23m @	6.21% graphitic carbon from 5m
KBRB 77	12m @	5.39% graphitic carbon from 10m
KBRB 80	13m @	5.40% graphitic carbon from 10m
KBRB 82	15m @	6.15% graphitic carbon from surface
KBRB 83	36m @	10.68% graphitic carbon from 5m
KBRB 183	10m @	8.76% graphitic carbon from 10m
KBRB 185	8m @	4.28% graphitic carbon from surface
KBRB 206	19m @	7.64% graphitic carbon from 5m
KBRB 207	10m @	5.65% graphitic carbon from 10m
KBRB 208	8m @	4.59% graphitic carbon from 10m

This phase of drilling was completed using Castle's own drill rig with the rotary air blast (RAB) samples generated being composited over 5m intervals for graphitic carbon analysis.

International mining consultants Runge Limited (RUL) completed an estimate of the Mineral Resource for the Kambale Graphite deposit. The Inferred Mineral Resource estimate complies with recommendations in the Australasian Code for Reporting of Mineral Resources and Ore Reserves (2004) by the Joint Ore Reserves Committee (JORC).

#### Metallurgy

Flotation tests conducted on fresh and weathered graphitic schist from the Kambale deposit indicate that graphitic carbon can be easily recovered through simple flotation. Fresh and primary drill composite samples were submitted to AMMTEC metallurgical laboratory in Perth under the supervision of consultants Mineral Engineering Technical Services (METS) for sizing and flotation test work.

Flotation recovery results for +75 micron (flake graphite) were estimated at nearly **70% for fresh material and 34% recovery from weathered material.** Flake graphite has high value and is currently priced at \$1500-\$3000/tonne<sup>2</sup>. Flotation recoveries for -75 micron (amorphous graphite) were **93% for fresh and 62% for weathered material.** 

Fresh and weathered drill samples were crushed screened and subject to flotation and produced the following distributions and recoveries.

Fresh Material Combined +75 micron Material with Flotation Recovery as Reported -150 +75 micron

Size Fraction (micron)	CGRAPHITE Calc'd	Mass	Flotation	t Graphite
	Feed Grade (%)	Distribution (%)	Recovery (%)	t Grapinte
+75	10.6	53.0	69.8	0.039
-75	14.0	47.0	93.4	0.061

Weathered Material - Combined +75 micron Material with Flotation Recovery as Reported -150 +75 micron

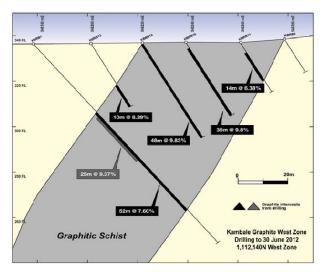
Size Fraction (micron)	CGRAPHITE Calc'd Feed Grade (%)	Mass Distribution (%)	Flotation Recovery (%)	t Graphite
+75	14.9	57.1	34.5	0.029
-75	20.1	42.9	61.9	0.053

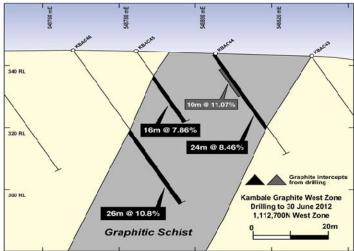


Photograph of polished section of fresh sample flotation concentrate showing predominantly liberated flakes of grey graphite (100-250 micron).



Fresh sample flotation concentrates



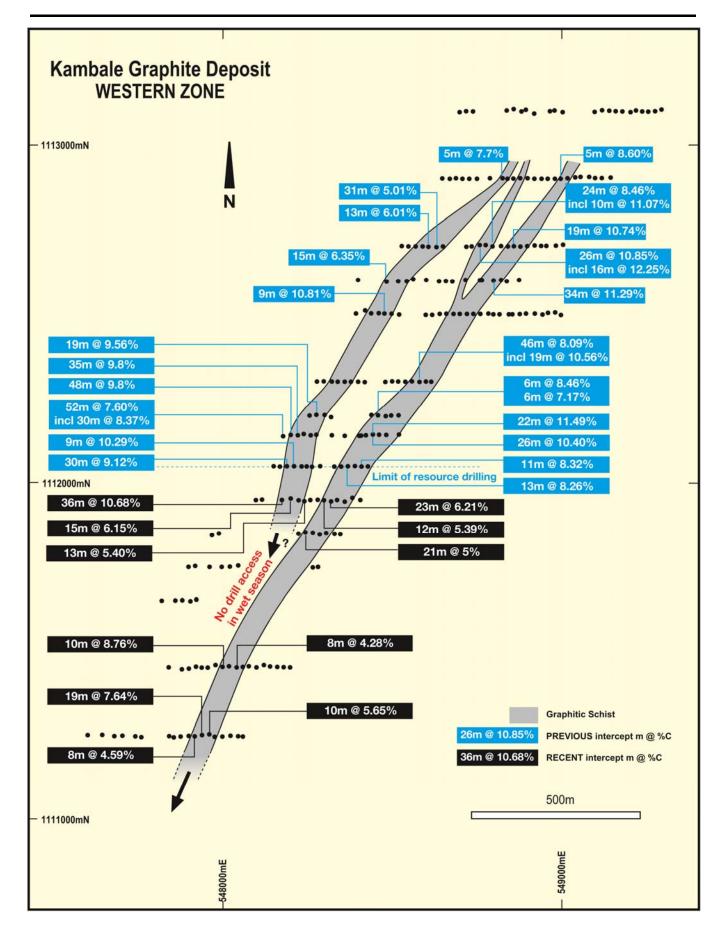


Kambale cross sections showing wide zones of graphitic schist from surface

#### Kambale Background

Castles Wa Project in north-west Ghana covers over 10,000km<sup>2</sup> where exploration is focussing on four regional scale prospect corridors. The Kambale graphite occurrence is located 5-8km west of Wa. Wa is the regional capital of the Upper West Region and has a population of ~50,000 and is fully serviced with grid power, sealed roads and good quality mobile communications. An all-weather bitumen airstrip is located at Wa.

The Kambale graphite prospect is within the Wa-Lawra greenstone belt and is being explored for gold and base metals by Castle. Under the terms of Castle's Licence conditions the company has first option to explore for and work other minerals subject to satisfactory arrangements between the Government and Castle. In July 2012 The Ghana Minerals Commission provided written notice that it has recommended to the Minister of Lands and Natural Resources to grant Castle a new licence over and including the Kambale graphite deposit.



Drill hole location plan of Kambale graphite deposit with significant graphite intercepts. Results in blue were used in the July 2012 resource estimate whilst those in black are from new shallow drilling testing the southern strike extension. A majority of the new graphite intercepts bottomed in mineralisation

#### **Corporate**

#### **Cash Position**

At Quarter end Castle had total issued capital of 113.7M shares and 1.05 million options on issue. Cash reserves were \$2.65 million.

#### **Project Divestment**

Castle had previously received a share and cash offer for two of its gold exploration projects in Ghana from a private exploration company. The private company did not raise the funds required as a condition precedent to the agreement and accordingly the agreement lapsed.

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#### **About Castle:**

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

All granted projects are 100% owned by Castle Minerals (subject to Ghanaian Government right to a free-carried 10% interest). Castle's corporate objectives are exploration and development of its six 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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#### References/Footnotes

<sup>2</sup> www.indmin.com

Wa South Propsect CDT:ASX Release 26/09/12 Drilling Confirms Gold Mineralisation at Wa South CDT:ASX Release 02/10/12 Kandia West Prospect Targets Kandia West Prospect Exploration Update September 2012 Geophysical Signatures Wa Project CDT:ASX Release 06/09/12 Kambale Graphite Project CDT:ASX Release 24/07/12 Maiden resource for Kambale Kambale Graphite Project CDT:ASX Release 24/08/12 Kambale Graphite Drill Results CDT:ASX Release 03/09/12 Kambale Graphite Metallurgical Results Kambale Graphite Project Kambale Graphite Project CDT:ASX Release 17/09/12 Further Kambale Drill Results 1 www.Azumahresources.com

Information in this announcement that relates to Exploration Results is based on information compiled by Haydn Hadlow, Castle Minerals Limited Exploration Manager, who is a Member of The Australasian Institute of Mining and Metallurgy. Haydn 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 2004 JORC Code. Haydn Hadlow consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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Information in this announcement that relates to the Gold Mineral Resources is based on information compiled by Michael Ivey, Castle Minerals Limited Managing Director, who is a Member of The Australasian Institute of Mining and Metallurgy. Michael Ivey 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 2004 JORC Code. Michael Ivey consents to the inclusion in the announcement of the matters based on the information in the form and context in which it appears.

Information in this announcement that relates to the Kambale Mineral Resource Estimate is based on information compiled by Aaron Green, Operations Manager WA, Runge Limited. Aaron Green is a full time employee of Runge Limited, a Member of the Australian Institute of Geoscientists (AIG), and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves. Aaron Green consents to the inclusion in the announcement of the matters based on the information in the form and context in which it appears.