

# **Encouraging Kambale Graphite Project Interim Drill Results**

- Encouraging interim assay results received from first 23 of total 52 hole, 5,323m
   RC program.
- Several holes returned thick, high-grade, multiple intercepts some of which fall outside of the existing resource envelope, with many also relatively close to surface.
- Better intercepts, in addition to a peak 1m intercept of 21.2%TGC from 56m (22CKRC006) include (5% TGC cut-off. 2m max internal dilution)(intercepts are not true widths):

Hole	Width	Total Graphitic Carbon	From
22CKRC001	15m	11.0%	51m
22CKRC006	29m	11.8%	47m
incl.	5m	15.4%	56m
Incl.	1m	21.2%	56m
22CKRC007	16m	7.4%	46m
and	14m	7.5%	77m
22CKRC009	19m	8.4%	20m
and	32m	6.8%	59m
22CKRC010	11m	8.4%	28m
and	7m	12.5%	43m
incl.	3m	18.0%	43m
and	23m	6.8%	79m
22CKRC011	15m	9.2%	57m
and	11m	8.0%	83m
22CKRC012	30m	10.7%	30m
incl.	4m	14.7%	55m
22CKRC018	58m	8.2%	22m
22CKRC019	30m	5.9%	24m
22CKRC021	14m	11.5%	43m
incl.	2m	19.7%	45m
22CKRC022	24m	7.3%	115m

- Program was designed to expand the footprint of the deposit, to better understand those areas outside of the present Inferred Resource<sup>1</sup> and to test the continuity of higher grade zones.
- Balance of drilling results due early-October 2022.
- Targets will then be selected for diamond core drilling in Q4 2022 to obtain samples for Phase 2 test work on fresh, un-weathered material.

Castle Managing Director, Stephen Stone commented "The interim assay results from 23 holes of the recently completed 52-hole, 5,353m RC drilling program at the Kambale graphite project, Ghana, confirm that it is evolving as a very credible and still not yet fully defined deposit.

Several thick, high-grade and multiple intercepts have been returned, often at shallow depths and with a number falling outside of the existing Mineral Resource envelope.

Better intercepts included 58m at 8.2%TGC from 22m, 30m at 10.7%TGC from 30m and 3m at 18.0%TGC from 43m with a peak value 1m intercept of 21.2%TGC.

Once all results are available we will be able to position a series of diamond core holes to obtain samples for the next stage of test work and flow sheet development. We also have an independent geologist on standby to provide a JORC 2012 Exploration Target estimate.

It's an exciting time for Kambale especially given the projected increasing demand and under supply of graphite for at least the remainder of this decade."

Junior explorer and project incubator, Castle Minerals Limited (ASX: CDT) ("Castle" or the "Company"), advises that it has received encouraging intercepts from the first 23 holes of a recently completed 52 hole, 5,353m RC drill program at its flagship Kambale Graphite Project, Ghana ("Project")(Fig 1).

Several holes returned thick, high-grade and multiple intercepts some of which fall outside of the existing Mineral Resource<sup>1</sup> envelope and with many also relatively close to surface.

Selected intercepts, in addition to a peak 1m intercept of 21.2%TGC from 56m (22CKRC006), include (5% TGC cut-off. 2m max internal dilution)(intercepts are not true widths):

Hole	Width	Total Graphitic Carbon	From
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incl.	2m	19.7%	45m
22CKRC022	24m	7.3%	115m

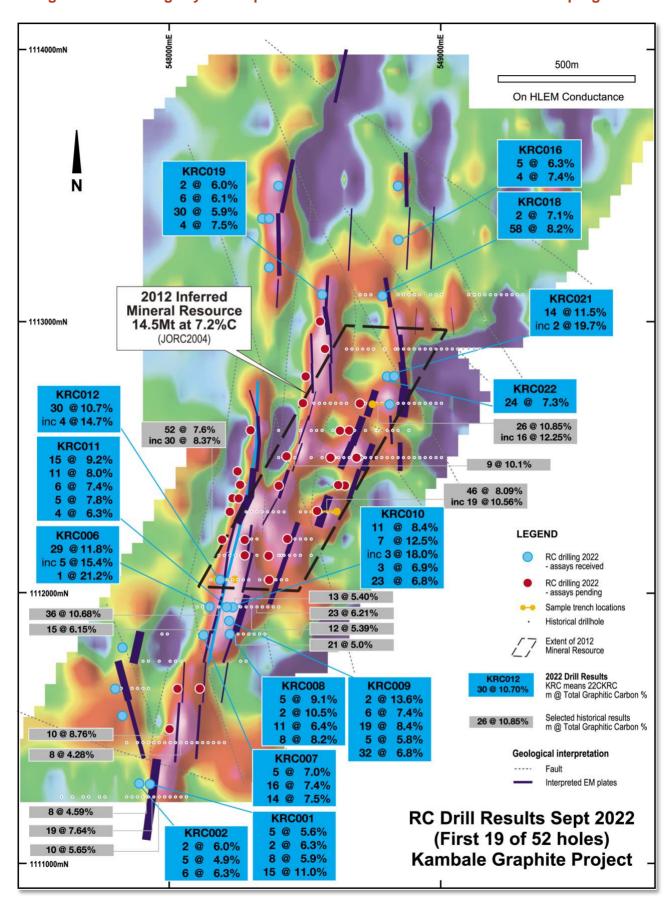


Fig 1: Plan showing key intercepts from initial 23 holes of recent 52 hole RC program.

NB: Geological cross sections incorporating the most recent and historical drilling will be provided once all campaign results are available and a fully informed interpretation of the geology and graphite distribution can be made.

The program was designed to expand the footprint of the deposit and to better understand those areas outside of the present Inferred Resource of 14.5Mt at 7.2%C (graphitic carbon) for 1.04Mt contained graphite (JORC 2004)(refer Table 1)<sup>1</sup>.

Once all assays have been received and processed, this historical resource estimate will no longer be reportable under JORC 2012.

A JORC 2012 Exploration Target estimate will be provided in October 2022 by an independent geologist and in Q1 2023 the intention is to provide a new JORC 2012 compliant Mineral Resource estimate.

Another aim of this latest program was to identify and test the continuity of higher grade zones and provide locations for diamond core drilling in Q4 2022 to obtain samples for Phase 2 test work on fresh, unweathered material.

Most of the RC drill hole locations were guided by a recently completed ground HLEM geophysical survey that identified numerous conductive plates, many of which correlate well with known areas of graphitic schist but with several having no drill holes nearby.

Results and reporting for the outstanding drill holes are expected to be available by early-October 2022.

# Licence renewal and new subsidiary

The Project is located within a 137km² prospecting licence (PL10/47) previously held by Carlie Mining Limited but recently renewed in the name of newly established, whollyowned, Ghanaian registered subsidiary, Kambale Graphite Limited. This will provide greater flexibility with development and financing.

The Government of Ghana has the right to acquire a 10% free carried interest in all licenses in Ghana and is entitled to a 5% Gross Royalty on production.

## **Next steps**

Once all of the drill hole assay results have been evaluated, and subject to the cessation of seasonal rains and local crop harvesting, the intention is to undertake a diamond core drilling program, most likely in late October / early-November 2022.

Preparing sample bags for splitting

Using retrieved core samples, test work and preliminary flow sheet development is scheduled to commence later in 2022. It is hoped that this work will also produce a suitable quantity of concentrate to enable a high-level market positioning assessment to be undertaken.

### **Project background**

The Kambale graphite deposit was identified in the 1960s by Russian geologists prospecting for manganese. They undertook a program of trenching and drilled 25 holes to a maximum depth of 25m. A subsequent report noted "two main zones of graphitic schists averaging around 10% to 15% graphite within which there were higher grade zones and that the graphite is the flaky variety with fine crystals (usually less than 0.25mm)." (Report on the Geology and Minerals of the South Western Part of the Wa Field Sheet, Pobedash, I.D. 1991).

The mineralisation consists of north-east trending, sub-parallel zones of meta-sediment which is host to the fine flake graphite. The Lower Proterozoic Birimian (~2.2Ma) meta sedimentary rocks, namely

phyllites, and quartz - biotite schists, generally trend north-easterly and dip between 50° and 75° to the north west. The schists are hosted mainly in granodiorite.

The genesis of the flake graphite in Kambale is believed to be the result of high-grade metamorphism (amphibolite-granulite facies) which has converted trapped amorphous carbon into the characteristic fine crystalline layers.

Castle reviewed this historical work and a wide-spaced, regional-scale electromagnetic survey dataset inherited from previous licence holder, Newmont Limited. This work outlined a roughly elongate, north-south orientated, ~10km-long region considered prospective for graphitic schist horizons which may host multiple lenses of graphite mineralisation, similar to what is already outlined from drilling and trenching at Kambale. These lenses or horizons can vary in length and be up to 50m wide, creating substantial deposits of graphite.

Encouraged by firm graphite prices in 2012, Castle undertook three consecutive phases of drilling comprising RAB (251 holes, 5,621m), aircore (89 holes, 2,808m) and reverse circulation (3 holes, 303m). Mapping noted occasional outcrops of manganese and graphitic schist as well as graphite in termite mounds.

Following the completion of the first two phases of Castle's drilling, an independent Mineral Resource estimate defined a maiden Inferred Resource (JORC 2004) of 14.5Mt at 7.2%C (graphitic carbon) for 1.03Mt contained graphite, including 6.0Mt @ 8.6%TC for 0.52Mt contained graphite (JORC 2004)(Table 1)(refer ASX release 24 July 2012)<sup>1</sup>. This extended over a strike of 1.25km and to a maximum depth of 110m. A third phase of drilling extended mineralisation to a total strike length of 2km.

In 2012 Castle undertook a very limited program of bench-scale test work on RC chips, which was not an ideal sample, and which returned mixed results. Thereafter, little work was undertaken until the more recent improvement in graphite prices prompted a re-evaluation of the Project in early 2021.

In September 2021 Castle reported that preliminary test work on sub-optimal near-surface, weathered graphitic schists yielded very encouraging fine flake graphite concentrate grades of up to 96.4% and recoveries of 88% using a conventional multiple grind and flotation concentration flowsheet. Three excavated and composited samples provided for the test work graded 12.56%, 16.09% and 17.16% total carbon.

In March 2022, a ground electromagnetic (HLEM) survey demonstrated a strong correlation between drill confirmed graphite mineralisation and zones of high conductivity. Several high conductivity zones extending well outside of the existing Inferred Resource boundary were also highlighted indicating the possibility of extensions of the known graphitic schists into sparsely or undrilled areas.

# **Logistics**

The Project is located 6km west of the Upper West region capital of Wa which is 400km north, via good sealed roads, of Kumasi. From Kumasi it is approximately 240km south east by rail or road to the international port of Tema, 30km west of the capital Accra, which provides direct access to global export markets. An alternative international port at Sekondi - Takoradi is located approximately 230km west of Accra.

The Wa region has an excellent infrastructure comprising a small commercial airport, reliable grid power, water and many other services.

Ghana is an established and safe mining jurisdiction with a well-trained and very capable minerals industry workforce. Its mining services and supply sector is strong and the national and local infrastructure is generally excellent with grid power, water, sealed roads, transport and commercial air services locally at Wa.

### **ESG**

Castle management has spent over 14 years successfully operating in Ghana and in particular its Upper West region. The Company has established an excellent reputation for its pro-active commitment to community engagement, local employment and training, the promotion of youth and women's development, maintaining the highest environmental operating standards and overall operating ethically and sustainably whilst carefully managing community expectations.

Prior to embarking on any specific exploration program the Company's Ghanaian team conducts comprehensive discussions with all stakeholders to fully inform them as to the Company's activities and

to identify sites of cultural, religious, social and economic sensitivity and to appropriately mitigate any matters of concern. Compensation for access and any disruption is paid at a minimum as per statutory guidelines.

### **Graphite market**

The graphite market is diverse across industrial, metallurgical, chemical and specialised areas with each sector requiring graphite concentrates with specific qualities. Deposit type, size and geometry, flake size, flake shape, grade, impurities, capital and operating costs, proximity to specific markets, supply logistics, jurisdiction, fiscal regime and many other factors all combine to determine the commercial viability of a particular deposit.

The current medium to long term outlook for the broader graphite concentrates market is one of escalating demand and a looming supply deficit driven in particular by its un-substitutional use in the fast-growing EV battery and stationary power storage sectors.

There is an increasing proportion of natural graphite, over synthetic graphite, being used in battery anode manufacture which also requires a fine flake graphite as the primary raw material. Hence, prices for fine flake graphite have shown a steady upward trend in the past twelve months.

The reader is directed to numerous recent publications, conference proceedings, market research papers and corporate websites of companies engaged in graphite exploration, project development or production for informed commentary and analysis of the graphite market.

Authorised for release to ASX by the Board of Castle Minerals Limited:

#### **Stephen Stone**

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#### MINERAL RESOURCE ESTIMATE

Table 1: Kambale Project Inferred Mineral Resource Estimate (5%C cut-off grade) (JORC 2004)

Туре	Tonnes (Mt)	Graphitic Carbon (%)	Contained Carbon (t)
Oxide Material	3.4	7.1	243,000
Fresh Material	11.0	7.2	793,000
Total	14.5	7.2	1,036,000

Refer ASX release 24 July 2012. Errors may occur due to rounding

The Mineral Resource estimate was made in July 2012 and complied with recommendations in the Australasian Code for Reporting of Mineral Resources and Ore Reserves (2004) by the Joint Ore Reserves Committee (JORC). Castle is not aware of any new information or data that materially affects the information included in the JORC 2004 Mineral Resource estimate and that all material assumptions and technical parameters underpinning the Mineral Resource estimate continue to apply.

The resource estimate released in July 2012 did not include any assumptions about mining, mining dilution, metallurgy or processing methods. No bulk density measurements were undertaken.

The Mineral Resource estimate is not compliant with Australian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves - 2012 edition. No additional technical work has been completed since the Mineral Resource estimate was made. There is insufficient information available for the resource to be re-estimated to be compliant with the Australian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves - 2012 edition.

It is possible that following additional technical work, including the most recent drilling when all results are available, and should a Competent Person be able to undertake a re-estimation of the Mineral

Resource to comply with JORC Code 2012, that the Mineral Resource may materially change and/or reduce or become unreportable under JORC 2012.

It is intended that a JORC 2012 Exploration Target estimate will be provided in October 2022 by an independent geologist and in Q1 2023 the intention is to provide a new JORC 2012 compliant resource estimate.

#### PREVIOUSLY REPORTED INFORMATION RELATING TO THIS RELEASE

Additional details, where applicable, can be found in the releases referenced in this Report and/or in the following releases lodged by the Company with the ASX:

Headline	Date
Kambale Graphite RC Drilling Program Completed	24 August 2022
More Graphite Zones at Kambale	11 July 2022
Drilling Campaign Launched at Kambale Graphite Project	14 June 2022
Kambale Graphite EM Survey Increases Size Expectations	31 March 2022
EM Survey Commences at Kambale Graphite Project Ghana	14 March 2022
Encouraging Graphite Test Work Results	21 September 2021
Kambale Graphite Test Work Update	5 August 2021
Graphite Test Work Underway	3 June 2021
Castle to Reappraise Kambale Graphite Project, Ghana	15 March 2021
Drilling Doubles Strike length of Kambale Graphite Deposit	17 September 2012
Metallurgy Test Work Confirms Commercial Potential of Kambale Graphite Deposit	3 September 2012
High Grade Graphite intercepts Extend Kambale Deposit	24 August 2012
Maiden Resource Confirms Kambale as One of World's Largest Graphite Deposits	24 July 2012
Large High Grade Deposit Confirmed at Kambale	6 July 2012
Extensive Zones of High Grade Graphite Intersected	9 May 2012

**Table A: Drill Hole Collar Information** 

DH				Total			
Hole	NORTH	EAST	RL	Depth	Azimuth	Dip	
22CKRC001	1111299.62	547925.908	303.3700	85	90	-60	
22CKRC002	1111300.29	547886.609	302.8295	140	90	-60	
22CKRC003	1111551.30	547826.111	304.6832	90	90	-60	
22CKRC004	1111650.41	547799.131	305.2214	90	90	-60	
22CKRC005	1111802.00	547827.464	306.7469	140	90	-60	
22CKRC006	1111952.62	548144.216	314.1737	85	90	-60	
22CKRC007	1111846.07	548125.218	313.5668	95	90	-60	
22CKRC008	1111849.69	548220.148	315.7678	85	90	-60	
22CKRC009	1111900.54	548219.255	315.7426	95	90	-60	
22CKRC010	1111948.92	548226.980	315.7705	102	90	-60	
22CKRC011	1111949.29	548209.354	315.4311	140	90	-60	A 000 / 0
22CKRC012	1112050.88	548187.175	313.0336	85	90	-60	Assays Received
22CKRC013	1113380.21	548363.465	299.6680	88	90	-60	Received
22CKRC014	1113380.08	548339.190	298.5110	140	90	-60	
22CKRC015	1113499.74	548400.592	300.8110	85	90	-60	
22CKRC016	1113295.65	548839.871	311.4380	85	90	-60	
22CKRC017	1113495.81	548841.635	307.9450	85	90	-60	
22CKRC018	1113095.71	548781.189	309.1080	93	90	-60	
22CKRC019	1113099.45	548561.827	303.1130	85	90	-60	
22CKRC020	1113200.49	548365.972	298.5950	85	90	-60	
22CKRC021	1112800.81	548825.156	315.1540	86	90	-60	
22CKRC022	1112799.54	548799.718	315.2730	144	90	-60	
22CKRC023	1112695.75	548809.546	317.5780	100	90	-60	
22CKRC024	1112701.00	548697.378	314.6270	156	90	-60	
22CKRC025	1112799.99	548498.842	307.1610	96	90	-60	
22CKRC026	1112698.32	548489.825	307.9580	100	90	-60	
22CKRC027	1112598.83	548659.237	314.1420	90	90	-60	
22CKRC028	1112601.11	548622.325	312.6330	150	90	-60	
22CKRC029	1112499.98	548685.146	315.5050	102	90	-60	
22CKRC030	1112500.06	548586.285	313.0046	90	90	-60	
22CKRC031	1112399.09	548644.888	316.7504	106	90	-60	
22CKRC032	1112398.59	548618.648	315.6426	145	90	-60	
22CKRC033	1112506.40	548432.265	308.9171	90	90	-60	
22CKRC034	1112598.90	548298.898	303.8173	85	90	-60	
22CKRC035	1112448.93	548249.195	306.0884	140	90	-60	
22CKRC036	1112400.31	548258.903	306.4728	87	90	-60	
22CKRC037	1112349.90	548254.904	308.2430	85	90	-60	Assays
22CKRC038	1112349.49	548229.363	307.2224	144	90	-60	Pending
22CKRC039	1112300.93	548220.638	307.4383	140	90	-60	r orraining
22CKRC040	1112399.02	548401.426	310.5848	85	90	-60	
22CKRC041	1112304.76	548540.200	315.0262	140	90	-60	
22CKRC042	1112195.91	548275.330	311.7204	85	90	-60	
22CKRC043	1112139.36	548363.623	316.2544	108	90	-60	
22CKRC044	1112141.06	548278.827	312.9146	85	90	-60	
22CKRC045	1112052.68	548367.614	317.1319	80	90	-60	
22CKRC046	1112198.84	548193.105	309.0707	120	90	-60	
22CKRC047	1112200.55	548429.845	315.5533	85	90	-60	
22CKRC048	1113000.91	548552.721	306.2497	72	90	-60	
22CKRC049	1112900.17	548569.827	308.7030	88	90	-60	
22CKRC050	1111649.99	548110.511	311.5032	84	90	-60	
22CKRC051	1111649.78	548027.407	309.3809	94	90	-60	
22CKRC052	1111500.09	547999.298	306.8431	113	90	-60	

Table B: Assay Results (5%TGC cut-off. 2m max internal dilution)

Hole Number	From (m)	To (m)	Width (m)	TGC%
22CKRC001	17	22	5	5.6
and	25	27	2	6.3
and	39	47	8	5.9
and	51	66	15	11.0
22CKRC002	81	83	2	6.0
and	86	91	5	4.9
and	96	102	6	6.3
22CKRC003		No graphite	intersected	
22CKRC004		No graphite		
22CKRC005		No graphite		
22CKRC006	47	76	29	11.8
incl.	56	61	5	15.4
Incl.	56	57	1	21.2
22CKRC007	15	20	5	7.0
and	46	62	16	7.4
and	77	91	14	7.5
22CKRC008	0	5	5	9.1
and	8	10	2	10.5
and	33	44	11	6.4
and	47	55	8	8.2
22CKRC009	3	5	2	13.6
and	11	17	6	7.4
and	20	39	19	8.4
and	42	47	5	5.8
and	59	91	32	6.8
22CKRC010	28	39	11	8.4
and	43	50	7	12.5
incl.	43	46	3	18.0
and	67	70	3	6.9
and	79	102	23	6.8
22CKRC011	57	72	15	9.2
and	83	94	11	8.0
and	101	107	6	7.4
and	115	120	5	7.8
and	123	127	4	6.3
22CKRC012	30	60	30	10.7
incl.	55	59	4	14.7
22CKRC013	No graphite intersected			
22CKRC014		No graphite i	ntersected	
22CKRC015	No graphite intersected			
22CKRC016	22	27	5	6.3

Hole Number	From (m)	To (m)	Width (m)	TGC%
and	30	34	4	7.4
22CKRC017		No graphite ir	ntersected	
22CKRC018	9	11	2	7.1
and	22	80	58	8.2
22CKRC019	5	7	2	6.0
and	15	21	6	6.1
and	24	54	30	5.9
and	57	61	4	7.5
22CKRC020		No graphite in	ntersected	
22CKRC021	43	57	14	11.5
incl.	45	47	2	19.7
22CKRC022	115	139	24	7.3
22CKRC023		No graphite in	ntersected	

Kambale Project RC Drilling Program August 2022

Appendix: JORC Code 2012 Edition – Table 1

Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Certified Person Commentary
	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 consists of collecting reverse circulation drill cuttings over an interval of one (1) metre.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Metre interval measures were marked on the drill mask allow operators to know when the sample was to be collected.
Sampling techniques	Aspects of the determination of mineralisation that are Material to the Public Report.	Sampling for geochemical analysis was restricted to zones geologically logged as graphite schist. Intervals not logged as graphite schist were sampled but not submitted for analysis
	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 3kg was pulverised to produce a 30g 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.	Industry standard sampling techniques for reverse circulation drilling were used to obtain the sample.
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-	Drilling was by conventional reverse circulation using a face sampling hammer and standard sample hole and cyclone. A 3-way sample splitter was used to

Criteria	JORC Code explanation	Certified Person Commentary
	sampling bit or other type, whether core is oriented and if so, by what method, etc).	collect 2 -3 kg samples required for geochemical sampling.
	Method of recording and assessing core and chip sample recoveries and results assessed.	Sample volumes were visually checked by rig geologists for each metre and adjustments made to drill technique if sample volumes fell.
Drill sample recovery	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Cyclone and sample hose were regularly purged and cleaned during drill operations
·	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 has not been determined as yet .
Landina	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.	Each one metre sample interval was geologically logged using a standard logging code and data recorded on color, lithology, oxidation, structure, alteration minerals and approximate quantities and graphite intensity.
Logging	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging was qualitative. Sample chip trays for each hole were photographed.
	The total length and percentage of the relevant intersections logged.	Not Applicable.
	If core, whether cut or sawn and whether quarter, half or all core taken.	Not Applicable.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	For samples sent for assay, samples were run through a 3-way sample splitter with a 2-3 kg sample collected and the remainder placed in the bulk sample bag. For intervals of wet /damp sample, a scoop or spear was used to collect material for analysis
Sub- sampling techniques	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Not Applicable.
and sample preparation	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Certified reference material (CRM) were inserted into the sample stream at a frequency of approximately 1 in 50.
	Measures taken to ensure that the sampling is representative of the insitu material collected, including for instance results for field duplicate/second-half sampling.	Duplicate samples and field blanks were collected every 1:25 samples and inserted into the sample stream.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample size is appropriate for the material being sampled. No appreciable bias was detected in the field duplicate samples.
	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Sample preparation including drying sorting, pulverising was undertaken by Intertek Ghana. Analysis of Total Graphitic Carbon (TGC), Carbon (TC) and Sulfur (S) was undertaken by Intertek in Australia.
Quality of		TC and S analysis is performed in an induction furnace analysed by Infrared spectrometry, laboratory code CSA.
assay data and laboratory tests		TGC is calculated by driving off other forms of carbon. The sample is dissolved in HCL to remove CO <sub>3</sub> . The remaining residue is collected in filter paper and dried in an oven at 420°C to remove remaining organic carbon. The dried sample contains only carbon bearing material which analysed by Infrared Spectrometry Laboratory sample code C73/CSA for TGC.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument	Not applicable.

Criteria	JORC Code explanation	Certified Person Commentary
	make and model, reading times, calibrations factors applied and their derivation, etc.	
	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.	No umpire laboratory checks were undertaken  The company had a rigorous regime of CRM, field duplicates and blanks inserted into the sample stream.
	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections were calculated by senior geological company personnel and verified by the independent competent person.
Verification	The use of twinned holes.	No holes were twinned.
of sampling and assaying	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Data on collar position, sampling intervals and drill hole lithology were recorded in the field only standard office excel worksheet in. The data was updated to a cloud server for security.
	Discuss any adjustment to assay data.	No editing has been done to contractor-supplied data.
	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.	The location of drill collars was recorded by handheld GPS on completion of the hole by the rig geologist. At the conclusion of the drill program the location of all drill collars were recorded by an independent survey contractor using a DGPS recorder.
Location of data points		Down hole surveys were recorded every 30m down hole by a REFLEX survey tool provided by the drill contractor.
	Specification of the grid system used.	Data locations are supplied in WGS84 datum, UTM Zone 30N projection.
	Quality and adequacy of topographic control.	A Drone LIDAR survey over the entire Kambale Prospect was completed by a licensed surveyor.
	Data spacing for reporting of Exploration Results.	The drill program completed aimed to test EM plate conductors for the presence or absence of graphite mineralisation. Drill spacing was not systematic along the conductors or down dip. Further infill drilling will be completed in order to gain a more regular sample spacing.
Data spacing and distribution	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.	An inferred geological resource was estimated on the Kambale deposit for Castle by Runge Consultants in 2012. The resource was based predominately on shallow RAB and Aircore drill holes projected to 100m below surface. Recent work by Castle, including EM surveying and the current RC drilling, shows that in places the geological modelling for this resource is incorrect. The company believes the current work will be sufficient to develop an Exploration Target over the prospect. Additional drilling and metallurgical testing will be required to upgrade the target to the JORC 2012 Mineral Resource category.
	Whether sample compositing has been applied.	Significant intervals reported have been composited from individual metre assays using a lower cut-off of 5% TGC and up 2 consecutive metres of less than 5% TGC as internal dilution.
Orientation of data in relation to geological	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The drill program was tin parts testing EM plate conductors assumed to be related to graphitic shears within a granodiorite. Drill holes were orientated approximately perpendicular to the interpreted plate conductors allowing for sampling across the entire graphite interval
structure	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.	Drilling orientation was designed in order to collect sample across the approximate true width of the graphite shear to ensure good representation.

Criteria	JORC Code explanation	Certified Person Commentary
Sample security	The measures taken to ensure sample security.	Samples for assay, were removed daily from the field and stored at the company's field base at Wa. Samples were aggregated in bulka bags and picked up from the Wa facility by Intertek personnel and transported to the Intertek sample preparation facility at Tarkwa Ghana. After sample preparation was completed, Intertek organised for a commercial freight company to pick up the pulp samples and deliver them to the Intertek laboratory facility in Maddington Western Australia.  No discrepancies in sample numbers, or lost sample have been recorded.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The company engaged a consultant geologist from Sahara Natural Resources Pty Ltd, domiciled in Ghana, to undertake a site technical review of the company's geological logging and drill hole sampling practices during the drill program and to ensure a high level of QA/QC practice. In addition, the consultant inspected the sample preparation facilities at Intertek's laboratory in Tarkwa, Ghana.

Section 2: Reporting of Exploration Results

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Criteria	JORC Code explanation	Certified Person 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.	Work was completed on PL 10/47 which is held 100% by Carlie Mining Limited a Ghanaian registered company wholly owned by Castle Minerals Limited. The licence was issued by MINCOM the agency authorised by the Government of Ghana to administer the country's Mining Act.  The Government of Ghana has the right to acquire a 10% free carried interest is all licences and is entitled to a 5% gross profit royalty on mineral production. There are no other encumbrances on the title.  The prospect is on traditional lands on the outskirts of the provincial city of Wa. Much of the prospect area is under cultivation by subsistence and market gardeners. Prior to undertaking works the company meets with, outlines its planned operations and then negotiates suitable compensation arrangements with traditional owners and farmers for any disturbances created by the company.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	The tenement is in good standing with MINCOM the Ghanaian ministry that administers mining tenure. The licence has recently been renewed by MINCOM under the authority of the responsible Minister.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Graphite mineralisation on the tenement was initially discovered by geologists in the 1960's exploring for manganese. Work was restricted to trenching. In 2012 Castle Minerals completed programs of aircore and RC drilling specifically testing the graphite occurrences on the tenement and completed preliminary bench-scale metallurgical test work on the ores. A maiden resource was released on the 24/07/2012.
	Dogo 12 of 17	Due to increased interest in graphite the company commenced reevaluating the deposit in 2021. A program of trenching and bulk sampling was completed, and detailed metallurgical test work

Criteria	JORC Code explanation	Certified Person Commentary
		completed, the results of which were announced on the 05/08/2021.
		The company completed a HLEM ground geophysical survey earlier in 2022. Results of this survey were released to ASX on 31/03/2022.
Geology	Deposit type, geological setting and style of mineralisation.	The Kambale project lies within Paleoproterozoic supercrustal and intrusive rocks of the Birimian Supergroup (ca 2195-2135Ma). The licence area is underlain by metamorphosed volcanic ,pyroclastic and sediments that have been intruded by granitoids. Graphite mineralisation occurs within a series of graphite rich schist units within granodiorite. Metamorphic grade is upper greenschist to amphibolite.
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:	Refer to tables in this announcement.
	<ul> <li>easting and northing of the drill hole collar</li> <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>	
	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.	All drill collar information has been released including holes that did not intersect graphite mineralisation.
Data aggregation methods	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	Significant intersections reported are based on numeric average of individual one metre assay results. No upper cut-off grades were applied.
	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.	A lower cut-off of 5% TGC was applied and up to 2m of consecutive assays below 5% TGC could be included in reported results.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Not applicable.
Relationship between mineralisatio n widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The drillholes are orientated approximately perpendicular to the interpreted strike of the graphite shears based on the ground EM survey. The dip of the shears is assumed to be steep. However there is insufficient closer spaced drilling to ascertain the exact dip or if it is consistent across the prospect at this time.
	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').	Down hole intersections are reported as down hole intersected width. Not true width.
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.	Appropriate maps are provided in the body of the report.

Criteria	JORC Code explanation	Certified Person Commentary
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.	Material above a lower cut-off grade has been reported. The drilling intersected significant thickness of lower grade material which has not been reported as at this point the company is of the opinion that the low-grade material is likely to be uneconomic.
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.	It should be noted that the company has not done sufficient metallurgical test work on the graphite ores to determine what material can be economically exploited. Factors including flake size, gangue inclusions in the ores, impurities and other physical properties not measured by TGC assays have a significant bearing on the economic value of graphite.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	The company is undertaken a program of petrological studies on a suite on graphite chips from the drilling to better understand the distribution of flake size and presence or absence of gangue inclusions in the ores. A program of diamond drilling is planned to commence later in the year for metallurgical test work. Following completion of the test work further RC and diamond drilling will be undertaken.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Suitable plans are included in this release.

#### **About Castle Minerals Limited**

Castle Minerals Limited is an Australian Securities Exchange (ASX: CDT) listed and Perth, Western Australia headquartered company with interests in several projects in Western Australia and Ghana that are prospective for battery metals (lithium and graphite), base metals and gold.

The Earaheedy Basin project encompasses terrane prospective for base and precious metals in the Earaheedy and Yerrida basins base metals provinces. The project comprises the Withnell, Terra Rossa and Tableland sub-projects. The Withnell licence is adjacent to the evolving Chinook-Magazine zinclead project of Rumble Resources Ltd (ASX: RTR) and north of the Strickland Metals Limited (ASX: STK) Iroquois prospect. The Terra Rossa licences are east of the Thaduna copper deposit.

The Beasley Creek project lies on the northern flanks of the Rocklea Dome in the southern Pilbara where orogenic-style, structurally controlled gold targets within the various Archean sequences are being targeted. Unexpected lithium anomalism is also being followed-up.

The **Success Dome** project lies in the Ashburton structural corridor and is located midway between the Paulsen's and Ashburton gold deposits. It is prospective for gold and base metals.

The **Polelle** project, 7km southeast of the operating Bluebird gold mine near Meekatharra, hosts a mainly obscured and minimally explored greenstone belt prospective for gold.

The **Wanganui** project, 15km south-west of the operating Bluebird gold mine, presents an opportunity to test for down-plunge and along strike extensions to the existing Main Lode North and South deposits and similar targets.

The **Wilgee Springs** project, along strike from and within the same metamorphic belt as the world-class Greenbushes lithium mine 25km to the south, provides an opportunity to explore for spodumene bearing pegmatites beneath a lateritic cover that has previously hampered exploration.

The **Woodcutters** project, is prospective for lithium bearing pegmatites, 25km southeast of the Bald Hill lithium mine and 25km northwest of the Buldania lithium deposit.

The **Woomba Well** project will be evaluated for lithium bearing pegmatiteis

The **Great Southern Graphite** project comprises two granted licences encompassing the historical **Kendenup** graphite workings and the adjacent **Martagallup** graphite occurrences and one application covering a graphite occurrence at **Mt. Barrow**.

In Ghana, West Africa, Castle's substantial and contiguous tenure position in the country's Upper West region encompasses large tracts of highly prospective Birimian geological terrane, the host to many of West Africa's and Ghana's multi-million-ounce gold mines.

The emerging **Kambale** graphite project also lies on the Ghana tenure. Drilling and test work to date have indicated that it is a sizable open-ended deposit with several favourable attributes to warrant its advance.

Castle retains a 4% net smelter precious metal royalty over the Julie West licence, a key component of Azumah Resources Limited's Wa Gold Project, Upper West region, Ghana.

#### **Cautionary Statement**

All of Castle's projects in Australia are considered to be of grass roots or of relatively early-stage exploration status. There has been insufficient exploration to define a Mineral Resource. No Competent Person has done sufficient work in accordance with JORC Code 2012 to conclusively determine or to estimate in what quantities gold or other minerals are present. It is possible that following further evaluation and/or exploration work that the confidence in the information used to identify areas of interest may be reduced when reported under JORC Code 2012.

# **Forward Looking Statement**

Statements regarding Castle's plans, forecasts and projections with respect to its mineral properties and programs are forward-looking statements. There can be no assurance that Castle's plans for development of its mineral properties will proceed. There can be no assurance that Castle will be able to confirm the presence of Mineral Resources or Ore Reserves, that any mineralisation will prove to be economic or that a mine will be successfully developed on any of Castle's mineral properties. The performance of Castle may be influenced by a number of factors which are outside the control of the Company, its Directors, staff or contractors.



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## **Competent Persons Statement**

The scientific and technical information in this Report that relates to the geology of the deposits and exploration results is based on information compiled by Mr Stephen Stone, who is Managing Director of Castle Minerals Limited. Mr Stone is a Member of the Australian Institute of Mining and Metallurgy and has sufficient experience which 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 Stone is the Qualified Person overseeing Castle's exploration projects and has

reviewed and approved the disclosure of all scientific or technical information contained in this announcement that relates to the geology of the deposits and exploration.