ANNOUNCEMENT
ASX:CDT

16 May 2023

Castle Commences Resource Upgrade Drilling at Kambale

Summary

- **35-hole, 4,100m RC drilling campaign designed to expand recently delivered maiden MRE of 15.6Mt at 9.0% TGC containing 1.41Mt of graphite.**
- **MRE indicated that a material volume of mineralisation confirmed by first-pass drill testing of EM conductors could be added with a modest amount of infill drilling.**
- **Opportunity also to extend several graphitic zones along strike and to depth.**
- **Planned updated MRE will underpin a Scoping Study evaluating merits of a long-life operation producing a fine-flake graphite product for ultimate use in Battery Anode Material ("BAM") manufacture.**
- **Drilling campaign expected to be completed mid-June 2023, assay results available in August and the MRE updated thereafter.**

Castle Managing Director, Stephen Stone, commented **"Castle is excited to be a participant in the rapidly evolving electric vehicle and stationary battery industry of which graphite is a critical input as the world moves to achieve mandated clean energy targets.**

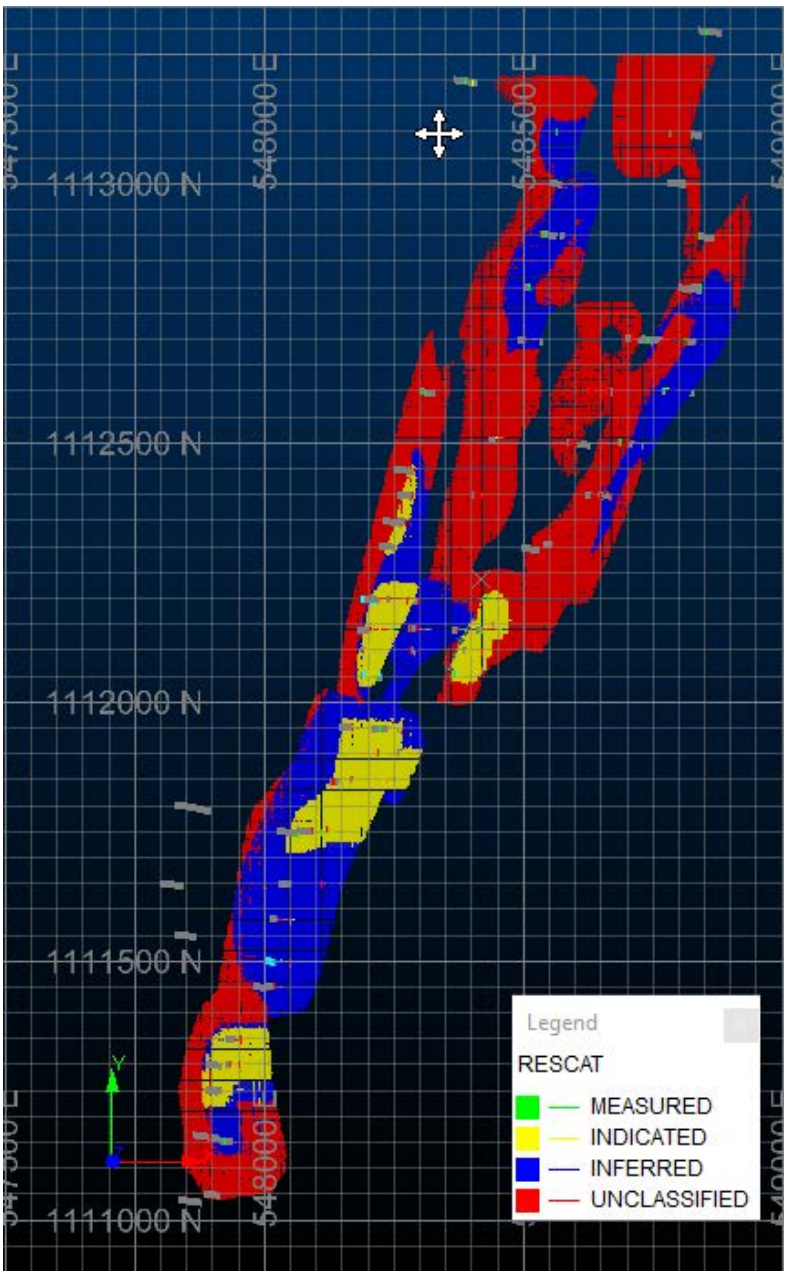
We are looking to rapidly position the Kambale Graphite Project as a credible option for the delivery of a fine flake concentrate into a market for which a major supply deficit is widely predicted.

We are confident that the 35-hole, 4,100m RC drilling programme that has just commenced, our third in the past 18 months, will materially increase the Mineral Resource Estimate of 15.6Mt at 9.0% TGC containing 1.41Mt of graphite to underpin a planned scoping study."

Next Steps at Kambale

1. Complete infill and extensional drilling to increase the maiden MRE;
2. Complete Phase 2 test work to produce a commercial-grade fine flake bulk concentrate to be evaluated for its capability to produce high-value Battery Anode Material ("BAM");
3. Commence a development scoping study; and
4. Continue to evaluate the broader Kambale licence area for additional graphitic schist occurrences.

Fig 1: Plan view of the Kambale MRE classification extracted from the Palaris MRE Report which noted that *" Large areas exist which have been unclassified (red shading) which should only require a few drillholes to upgrade……"*



Castle Minerals Limited (ASX: CDT) ("Castle" or the "Company") advises that a 35-hole, 4,100m RC drilling campaign to increase the recently delivered maiden JORC Code (2012) Mineral Resource Estimate ("MRE") of 15.6Mt at 9.0% TGC containing 1.41Mt of graphite has commenced at its flagship Kambale Graphite Project, Ghana ("Project")(Table 1)(Figs 1 and 2. Photo 1).

A primary aim of the programme will be to infill drill a considerable volume of mineralisation that did not qualify to be included in the maiden MRE. This includes mineralisation intersected by the successful first-pass testing of several HLEM geophysical survey conductors (red shaded area in Fig 1). The drilling will also look to extend along strike and to depth several of the well delineated graphitic lenses.

Drilling results are expected to be available in August whereupon an updated MRE will be undertaken by independent consultants, Palaris Australia Pty Ltd.

The updated MRE will underpin a Scoping Study that will evaluate the merits of a long-life mining operation producing at site a bulk fine-flake graphite concentrate and possibly higher-value derivative intermediate material for use in Battery Anode Material ("BAM") manufacture.

Photo 1: The first hole being collared in the Phase 3 RC drill hole programme at the Kambale Graphite Project.

KAMBALE PROJECT BACKGROUND

Geology

The Kambale graphite deposit was identified in the 1960s by Russian geologists prospecting for manganese. They undertook a programme of trenching and drilled 25 holes to a maximum depth of 25m.

The mineralisation consists of north-east trending, sub-parallel zones of meta-sediment which is host to the graphitic schists. The Lower Proterozoic Birimian (~2.2Ma) meta sedimentary rocks, namely phyllites, and quartz - biotite schists, generally trend north-easterly and dip between 50^{o} and 75^{o} 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.

Review

Castle reviewed the 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.

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), producing a JORC Code 2006 MRE. It also undertook a very limited programme of bench-scale test work on RC chips.

Thereafter, little work was undertaken until the more recent improvement in graphite prices prompted a re-evaluation of the Project in early-2021.

Phase 1 test work

In September 2021 Castle reported that preliminary test work by Independent Metallurgical Operations Pty Ltd (IMO), Perth, on sub-optimal near-surface, weathered graphitic schists sourced from trenches yielded very encouraging fine flake graphite concentrate grades of up to 96.4% and recoveries of up to 88%. A conventional multiple grind and flotation concentration flowsheet was used. The three composited samples provided for the test work graded 12.56%, 16.09% and 17.16% TGC.

Ground geophysics

In March 2022, a ground electromagnetic (HLEM) survey demonstrated a strong correlation between already drill confirmed graphite mineralisation and zones of high conductivity. Several high conductivity zones extended well outside of an existing JORC Code 2006 Inferred Resource into undrilled areas.

Exploration Target

In late 2022, a 52-hole 5,353m RC programme was undertaken to test the interpreted steep dipping, shallow conductive plates derived from the EM survey. The results confirmed that the majority of the plates were associated with graphite mineralisation and that the graphite continued to depths of at least 100m.

Maiden MRE

In early-March 2023 Castle reported that that at least ten robust lenses of graphitic mineralisation containing high-grade zones with excellent continuity had been delineated by a 30-hole, 2,622m RC infill and 4-hole, 365.2m diamond core drilling campaign.

In April 2023 a maiden JORC Code (2012) Mineral Resource Estimate ("MRE") of 15.6Mt at 9.0% TGC containing 1.41Mt of graphite was provided by independent consultants.

The MRE is hosted by twelve, sub-parallel, steep to moderately dipping graphitic schist zones. These were delineated using data from several phases of trenching and drilling which comprised 386-holes for a combined 16,018m of RAB, Aircore, RC and diamond core drilling. Of this database, 85 RC and 4 diamond core holes for a total of 8,644m were used in the actual estimation, in comparison to the previous JORC Code 2006 MRE undertaken in 2012 which incorporated 54 aircore and only 3 RC drill holes for a total of 2,233m.

Table 1: Summary JORC Code (2012) Mineral Resource Estimate (5% TGC cut-Off):

Classification	Tonnes (kt)	Contained TGC (kt)	TGC (%)
Indicated	5,979	542	9.1%
Inferred	9,632	863	9.0%
Total	**15,611**	**1,405**	**9.0%**

Mineralisation commences at or close to surface and extends to at least 120m below surface. The MRE excluded any mineralisation below the 200mRL, or approximately 100m below the topographic surface.

A material proportion of mineralisation intersected by drilling did not qualify for inclusion in the MRE. Infill drilling these zones, which were the first and successful testing of the "conductor" targets derived from the Castle commissioned ground HLEM geophysical survey, presents an excellent opportunity to increase the overall MRE.

Phase 2 test work

A 300kg sample of fresh, unweathered graphitic schist sourced from the four diamond drill core holes drilled into various representative areas of the deposit was delivered to IMO. It is presently undergoing testing to produce a commercial grade bulk concentrate. This will then be sent to a specialist facility in Europe that will assess its ability to be used in the manufacture of Battery Anode Material (BAM).

ADDITIONAL INFORMATION

Logistics and infrastructure

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 including a commercial airport only a few kilometres from the Project, excellent sealed and unsealed roads, plenty of water and reliable grid power partly fed with electricity generated by the 400MWh Bui hydroelectric dam.

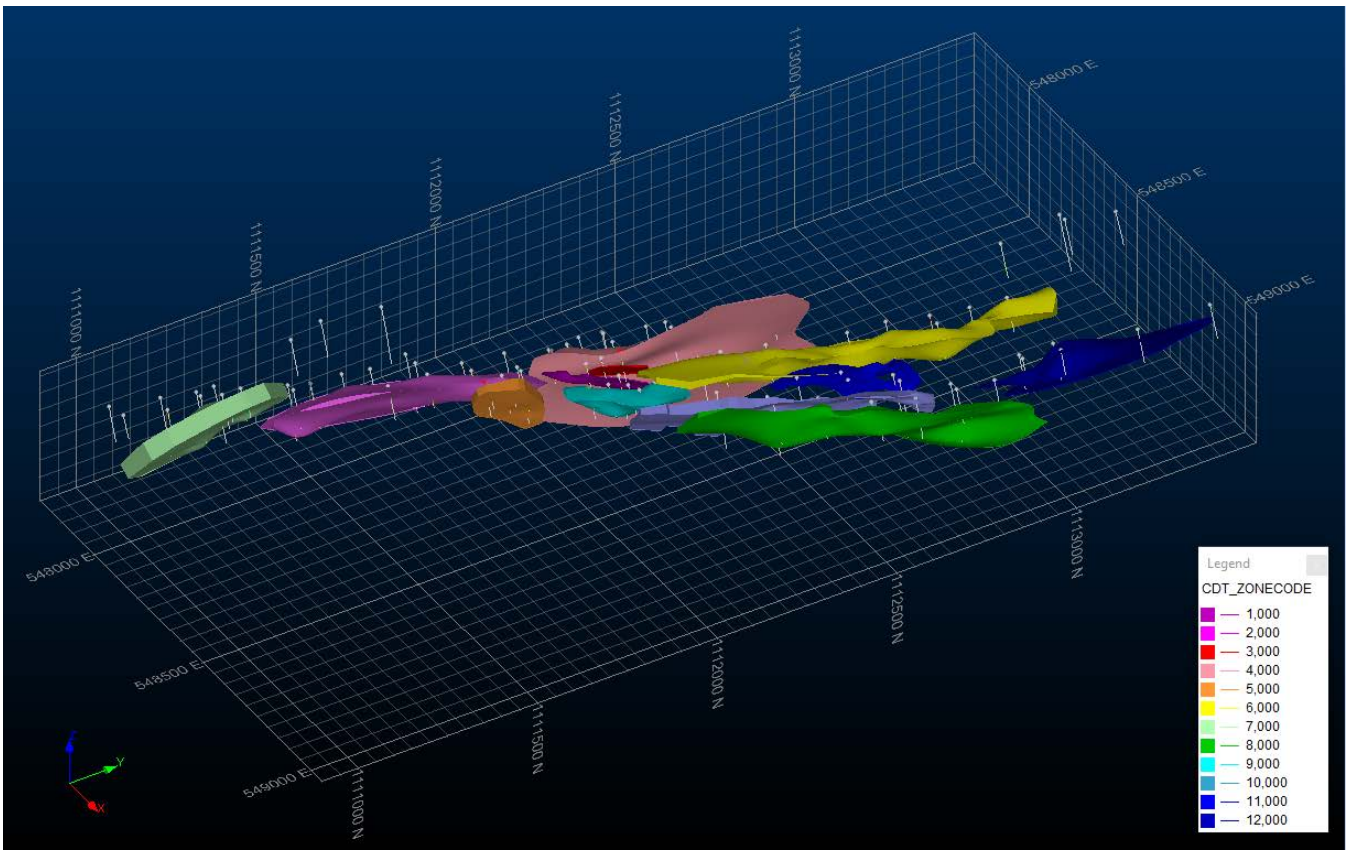
Ghana

Ghana has a well-established mining industry including several Tier-1 mining operations. It is now Africa's largest gold producer and the World's sixth largest. Accordingly it has a well-trained and very capable workforce supported by an excellent mining services and supply sector. It is a safe and politically stable jurisdiction based on the Westminster system of government and has a workable Mining Act and fiscal regime.

Social licence

Castle management has over 14 years of successfully operating in Ghana and in particular its Upper West region. It has established an excellent reputation for its pro-active commitment to community engagement, local employment and training and the promotion of youth and women's development initiatives whilst carefully managing community expectations. It has instituted best practise health and safety regimes and maintains the highest environmental operating standards whilst operating as ethically and sustainably as possible.

Fig 2: Oblique view looking northwest showing the twelve Kambale graphitic schist domains used to compile the MRE.



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Prior to embarking on any specific exploration programme the Company's Ghanaian team conducts comprehensive discussions and information sessions 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 disruptions caused is provided in close consultation with landowners with all site disturbances rehabilitated immediately after use.

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, ability to be refined, 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 use in the fast-growing EV battery and stationary power storage sectors. At present, there is no viable high-volume viable substitute for graphite.

There is an increasing proportion of natural graphite, over high CO_2 generating 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 concentrates have shown a firming of late although markets remain generally opaque.

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:

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PREVIOUSLY REPORTED INFORMATION RELATING TO THIS RELEASE

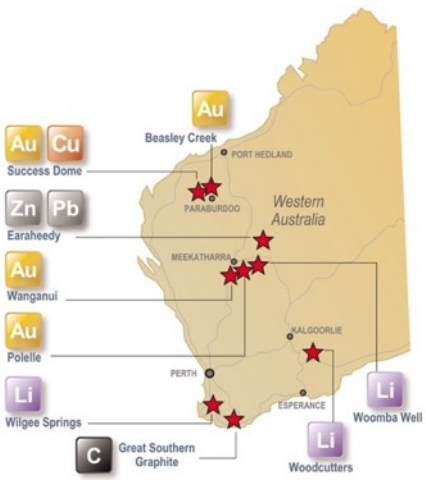
Additional details, where applicable, can be found in the releases referenced in this Report and/or in the following releases lodged by the Company with the ASX:

Headline	Date
Castle's Kambale Project Exceeds 1.4Mt Contained Graphite	12 April 2023
Excellent High-Grade Continuity Confirmed at Kambale Graphite Project	13 March 2023
Kambale Graphite Project RC Drilling Completed	4 January 2023
Kambale Graphite Diamond Core Drilling Completed (Amended)	23 December 2022

Headline	Date
Kambale Graphite Diamond Core Drilling Completed	20 December 2022
Independent Exploration Target Estimate Highlights Kambale as a Large-Scale Graphite Deposit	28 November 2022
Kambale Core Drilling Underway	10 November 2022
Kambale Graphite Deposit Extended	3 November 2022
Encouraging Kambale Graphite project Interim Drill Results	29 September 2022
Kambale Graphite RC Drilling Programme 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

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 comprises the **Withnell, Terra Rossa** and **Tableland** sub-projects with the Withnell licence strategically located adjacent to the evolving World-Class Chinook-Magazine zinc-lead 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 is prospective for gold and lithium and lies on the northern flanks of the Rocklea Dome in the southern Pilbara.

The **Success Dome** project lies in the Ashburton structural corridor midway between the Paulsen's and Ashburton gold deposits and 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 and possibly base metals whilst its partner , **Wanganui** project, is prospective for down-plunge high-grade gold shoots.

The **Wilgee Springs** project, along strike from and within the same metamorphic belt as the world-class Greenbushes lithium mine 25km to the south, is prospective for spodumene bearing pegmatites as is the **Woodcutters** project, 25km southeast of the Bald Hill lithium mine and 25km northwest of the Buldania lithium deposit. The **Woomba Well** project will also be evaluated for lithium bearing pegmatites.

The **Great Southern Graphite** project comprises 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 lies within the Ghana tenure.

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.

STATEMENTS

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 programmes 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.

Competent Persons Statements

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.

Information in this report that relates to geological interpretation, exploration activities, graphite mineralisation, Mineral Resources and results was reviewed by Dr Allan John Parker who is a Member of the Australian Institute of Geoscientists. Dr Parker is an employee of Palaris Australia Pty Ltd which provides geological consultancy services to Castle. Dr. Parker is also Director of Geosurveys Australia Pty Ltd, a non-Executive Director of Centrex Limited and was formerly Managing Director of Lincoln Minerals Limited. Dr Parker has sufficient experience relevant to the styles of mineralisation and to the activities which are being presented to qualify as a Competent Person as defined by the JORC code, 2012. Dr Parker consents to the release of the information compiled in this announcement in the form and context in which it appears.

Licencing

The Kambale Graphite Project licence is registered in the name of Castle's 100% owned Ghana based subsidiary, Kambale Graphite Limited.

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