

Blencowe Resources – Walking with Elephants

28th February 2023

Tier 1 graphite project targeting production as early as 2025

Blencowe Resources PLC was listed as a cash shell on the LSE in 2019 at 4p per share, seeking a quality asset to trigger a Reverse Takeover (RTO). In a timely fashion, the management team masterminded the acquisition of a 100% interest in the Orom-Cross Graphite Project in Uganda. This project has been rapidly diamond drilled, delivering a JORC Resource of 25Mt @ 6.0% with only 1-2% of the expected resource drilled to date – there is plenty of upside to scale up the resource significantly with additional drilling. The project has a current NPV8 of \$482m (49% IRR) with a CAPEX requirement of an easily financeable \$62m, making it one of the most attractive, undeveloped mining assets globally in our view.

- World-class graphite project with a 21-year Mining License already in place**
 Orom-Cross has a highly compelling combination of large-scale, shallow and low-cost mining, with an excellent mix of jumbo/large flakes and smaller size flakes within its end products, giving a high weighted value basket price. There is already a Mining Licence in place for 21 years.
- Limiting dilution - DFS and mine development to be funded at project level**
 The Definitive Feasibility Study (DFS) began in late 2022. It will include negotiating all offtake agreements to sell product to end users and financing deals as Blencowe seeks to get into production without further dilution for equity holders. Instead, the plan is to receive funding at the project level at a higher valuation than currently given on-market. The company's 100% stake means this can be achieved whilst retaining a significant majority position.
- Graphite demand is set to outstrip supply over the next decade substantially**
 The forecasted rapid growth in Electric Vehicles (EVs) and batteries for increased renewable sources sees 300+ battery 'mega-factories' planning to come on stream in the next 8-10 years, all requiring substantial graphite as a non-replaceable input into lithium-ion batteries. This dynamic is accentuated by long lead times to develop new graphite mines. Benchmark Minerals Intelligence forecasts a structural deficit (demand vs supply) for flake graphite from 2025 onwards, just as Orom-Cross plans to go into production.
- Highly risked NPV suggests an upside of more than 300%**
 Highly conservative discounted cash flow analysis using a 12% discount rate and further risking begins to show the true potential. We initiate coverage of Blencowe with a target price of **23.3p**, and a **Strong Buy** stance.

Orom-Cross is fast becoming a Tier 1 project at an inflection point for graphite demand.

Table: Financial overview. Source: Company accounts & Resolve Research

Year to end June	2021A	2022A	2023E	2024E
Revenue (£'000)	-	-	-	-
PTP (£'000)	(695)	(1,085)	(1,000)	(1,300)
EPS (p)	(0.61)	(0.68)	(0.51)	(0.66)

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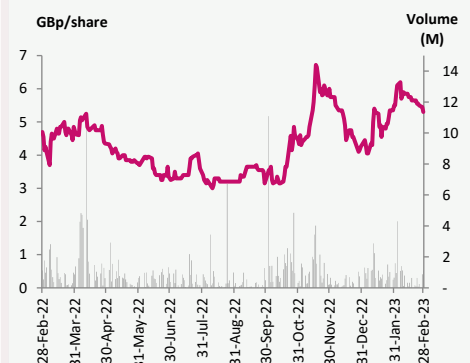
STRONG BUY

Target price 23.3p

Key Data

EPIC	BRES
Share price	5.3p
52 week high/low	7.35p/3.00p
Listing	LSE
Shares in issue	196.68m
Market Cap	£10.4m
Sector	Mining

12 month share price chart



Shareholders

RAB Capital	10%
Jangada Mines PLC	9.5%
Jub Capital	8.2%

Analyst Details

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Business Overview

Blencowe Operations

Blencowe is a mineral resources company which is currently focused on fast-track development of its wholly owned Orom-Cross Graphite Project located in northern Uganda (East Africa).

- **Orom-Cross Graphite Project (100%)** – Orom-Cross is an advanced project which was awarded a 21-year mining licence in October 2019. The overall size and scale determined from exploration work in the licence area has demonstrated that Orom-Cross has the potential to become one of the most significant graphite projects in the world based on both size and the quality of the end product. The project is blessed with a significant component of the high-value jumbo and large flake products, which are in high demand. This shallow deposit looks ideal to be mined by open pit methods and will have a low strip ratio, which is a strong catalyst for low-cost mining. The management team has made rapid progress at Orom-Cross, which is being fast-tracked to production. Already, the project has been through the Pre-Feasibility Stage (PFS – mid-2022), which highlighted exceptional returns with an NPV8 of US\$482 million and a 49% IRR. Currently, Orom-Cross is being put through the Definitive Feasibility Study, which is expected to be completed by the year-end and could result in the project going into production as early as 2025. Orom-Cross is the focus of this research report.



High-grade graphite outcrop at the Orom-Cross Jumbo Graphite Project. Source: Company

Graphite

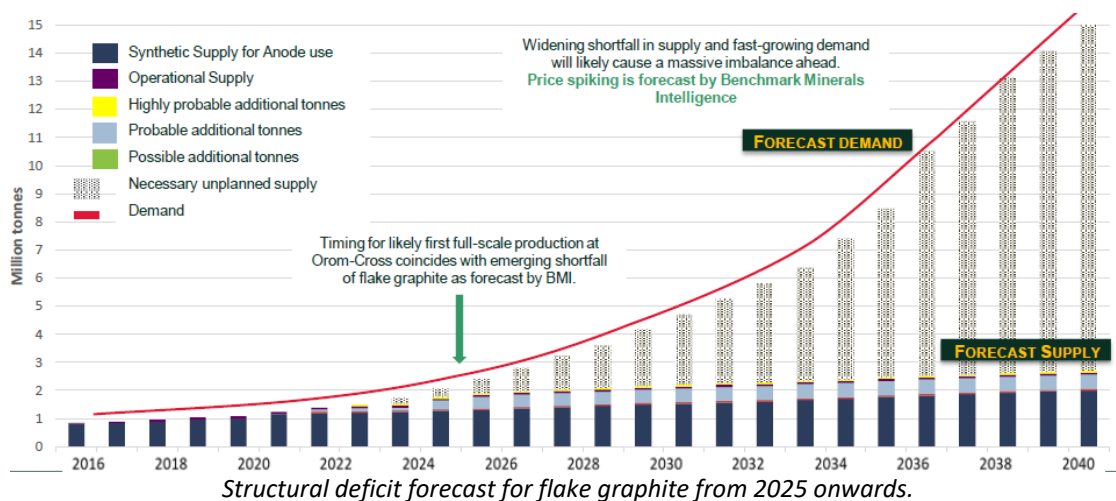
Introduction

Graphite is a naturally occurring form of crystalline carbon made up of stacked sheets of carbon atoms with a hexagonal crystal structure. Graphite forms within the earth's crust when carbon becomes compressed at temperatures over 750°C. Graphite is light and soft and easily breaks into thin, flexible sheets. This crystalline form of carbon has several interesting properties in that it has high electrical and thermal conductivity and is highly resistant to heat and corrosion.

Natural graphite comes in three main types - flake, amorphous and vein - but natural flake has the broadest range of uses and is thought to account for almost half the natural graphite consumed by industry today. The largest producers of flake graphite are China, Mozambique and Brazil. China might be the most significant global supplier, but it does not produce much jumbo and X-large flake graphite, which it must import.

In 2018, steel mills accounted for something like 500,000t, equating to over half of the annual demand for use in the production of refractories to line steel kilns and using graphite as an additive called a recarburiser in the production of high-grade steel. Due to its heat resistance and other properties, graphite is the critical component of the electrode and is seen as a consumable with electric arc furnace (EAF) steel-making. These graphite electrodes need replacing every 8-10 hours.

In the global shift towards EVs, graphite is rapidly being seen to be indispensable. As graphite is also used within the anode for lithium-ion batteries that power EVs, this market is seen as having the greatest likelihood for significant demand acceleration moving ahead. The graphite market is fast changing. Out of global demand in 2017, just 120,000t (17%) went into EVs. However, according to the leading graphite market research house Benchmark Mineral Intelligence (BMI), demand for natural graphite rose to 400,000t in 2021 from the battery segment alone. The estimated use of graphite for the battery segment for 2022 is around 750,000. Hence the market is doubling each year at the current rate of growth.



Structural deficit forecast for flake graphite from 2025 onwards.
Source: Benchmark Minerals Intelligence/Company

Forecast demand for flake graphite (ktpa). Source: Benchmark Minerals Intelligence

Year	2018	2022	2028	2030
EV batteries	125	500	2,050	2,700
Other uses	550	700	750	800
TOTAL	675	1,200	2,800	3,500

Graphite is a vital battery metal as it represents around 40 – 50% of Li-ion batteries by weight, which uses the smaller sized flakes. In recent years, some racy growth rates have been suggested for graphite demand for lithium-ion batteries. These were based on forecasts as global cell production surged behind the maturing demand for pure EVs and the birth of the utility storage market.

Supply deficit

It is now forecasted that demand for graphite for the EV battery sector alone will rise 6-fold over the next seven years to hit the 3-4 million tonne per annum (Mtpa) by 2030. This is a move which market commentators believe will result in a significant supply deficit. It should be noted that this figure represents 95% concentrate, which requires in situ graphite being concentrated on-site. Demand for synthetic graphite, which was 300,000t in 2021, is predicted to hit the 1.5Mt mark by 2030, which leaves a likely 1.5-2.5M shortfall for flake graphite that needs to be filled over the next 5-7 years. Both natural flake and synthetic graphite are used in EV batteries. This deficit is unlikely to be filled by any one project as typical (large scale) graphite mines deliver up to 100,000tpa of concentrate, which means 15-20 substantial new mines need to come online in this period (and ramp up fully). BMI were quoted (end-2022) as saying they can see only 5-10 possible new graphite mines coming online in this period, leaving a big gap. This does not consider the lengthy and challenging pre-qualification process either, which adds complexity and further timing to deliver new graphite projects into the supply chain.

Demand is chiefly driven by forecasted growth in EVs from the current 20 million to around 100 million by 2030, plus the growth in batteries required for increased renewable energy storage. In all, more than 300 battery mega-factories will come on stream over the next 8-10 years and will require vast amounts of graphite. In addition, forecasters are expecting continued growth in traditional graphite markets. However, this will all come at a time when supply is being constrained by the long lead times to not only develop graphite mines along with the lengthy qualification process for all graphite products required by end-users, which adds significant time-to-market for new entrants as OEMs test their end product over a period (usually 1-2 years) before any meaningful offtake quantities are locked in. Furthermore, other well-highlighted industry-wide difficulties have not helped fund new projects, and a good funding solution becomes critical to the success in this market for new entrants. Blencowe has stated it is working on such a funding solution for Orom-Cross.

A structural deficit is forecast for flake graphite from 2025 onwards, with demand for graphite expected to outstrip supply over the next decade substantially. The general feeling seems that the predicted widening shortfall in supply and fast-growing demand will cause a massive imbalance in the years ahead, with BMI forecasting the prospect of price spiking in the smaller flakes which go into the batteries. Whilst demand for traditional coarse flake end products is not expected to rise as fast as with that market, it is predicted to grow by 5% per annum. The planned timing for the first full-scale production at Orom-Cross does look to neatly coincide with the emerging shortfall of flake graphite being forecasted by BMI and others.

Flake size is very critical

It is worth pointing out that the larger flakes in a deposit come with higher purity and fetch higher prices. For an exploration/mining company, the lower the percentage of fine flakes, the better, as these represent the most abundant product in the market and the lowest selling price. Demand for jumbo/large flakes primarily comes from manufacturers of speciality product which require the highest quality graphite and hence a premium price.

Uses of the various sizes of natural graphite flakes. Source: Company

Coarse Flake (+32 to +48 mesh)	Large/Medium Flake (+80 to +150 mesh)	Small Flake (>+150 and -100 – 200 mesh)
Thermal sheets	Flame retardants	Lithium-ion batteries
Lining for steel foundries	Refractories	Lubricants
Flame retardants	Lithium-ion batteries	Friction materials
Refractories		
Gaskets and seals		
Expandables		

It has been suggested that one of the fastest-growing markets may be expandable graphite (jumbo/XL). Due to the layered structure of graphite, atoms or small molecules can be introduced between the carbon layers. Under heat, the layers separate like an accordion as the graphite flakes expand. Thermal management in consumer electronics uses expandable graphite. In addition, there are industrial applications, such as the growing demand for high-powered laser machines for cutting and welding and the increasing demand for the 3D printing market.

Expandable graphite flakes are also used as a fire-retardant additive to materials to improve fire protection, including wood, foams, plastics, roofing and other construction materials. Flame retardant products seem to be increasingly covered by the expansion of regulations in the countries of Asia, led by China. Also, potential new markets exist for expandable graphite in fuel cells and flow batteries. However, given such demand and limited supply, this particular type of graphite attracts high prices.

Orom-Cross Graphite Project

Introduction

The Orom-Cross Graphite Project is an advanced project in Northern Uganda. The project lies within the Orom District in Northern Uganda, approximately 75km from the town of Kitgum and 6km from the village of Orom. The project can be accessed from the southwest along 104km of tarred road from Gulu to Kitgum, followed by 87km of gravel roads (currently being tarred, expected completion 2025/6). Aside from roads, other infrastructure at site is excellent, with access to hydro-power off the grid (4km from site), abundant water and existing mobile communications. In addition, rail access is available at Gulu, approx. 150km away. This means no long, complex, costly capital expenditure to bring key infrastructure to site.



Location of the Orom-Cross Graphite Project licence area. Source Company

Currently, the project is being advanced through the DFS stage. The Orom-Cross Graphite Project has a 21-year Mining Licence (awarded in August 2019) over the area Blencowe intends to mine (for at least the first 30-40 years). The overall size and scale determined from the feasibility studies and the exploration work already suggests that Orom-Cross has the potential to become one of the most significant graphite projects in the world.

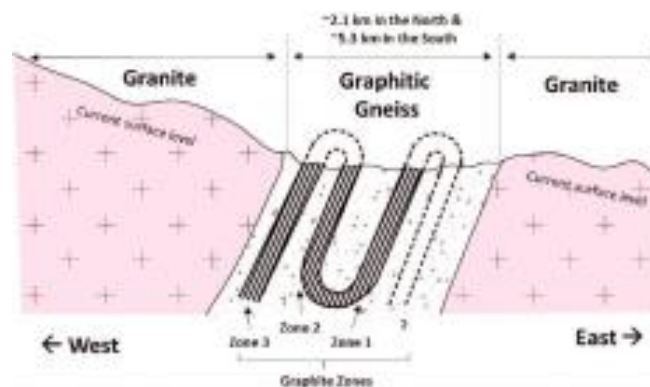
History

The earliest known exploration commenced in 1964, where several anomalies (zinc and, to a lesser extent, cobalt, nickel, copper and chromium) were detected from soil sampling. In 1969, this work was followed by more mapping, pitting, trenching, channel sampling and the drilling of a single hole to test the anomalies by the Ugandan Geological Survey. The anomalous areas covered the main areas of graphite occurrence. The observed graphite flakes were described as occurring within granitic gneisses, with the inferred graphite zones generally dipping around 70° towards the west.

More recent exploration kicked off in 2013, which involved mapping, diamond drilling, geophysical survey and trenching, which was undertaken by a series of companies beginning with Discovery Africa and followed by TMT Mining and Consolidated Africa (CAR). 2014 saw Discovery Africa and TMT Mining excavate 36 pits and sample 26 to a depth of 2.5m. These pits were dug across the strike of graphitic lodes, and the results highlighted prospective granitic zones about 1.5km wide that extended 3.5km along strike to the north.

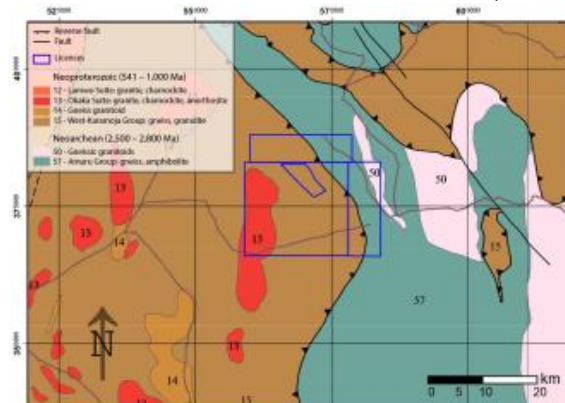
Geology

Orom-Cross lies in rocks of the Neoproterozoic age. The graphite mineralisation is hosted in the granulite facies rock of the West-Karamoja Group, which comprise of metamorphosed mafic igneous and sedimentary sequences of banded granulites, gneiss, schist, charnokite, calc-silicate and sericitic quartzites.



Schematic illustration of the interpreted geology. Source: CPR October 2019

Over many millions of years, the area's geology has experienced a series of compressional events that have resulted in tight folding with the dominant structures lying upright and trending in a north-south direction. There are double plunging structures as the dominant folds have been re-folded, creating a dome and basin geology.

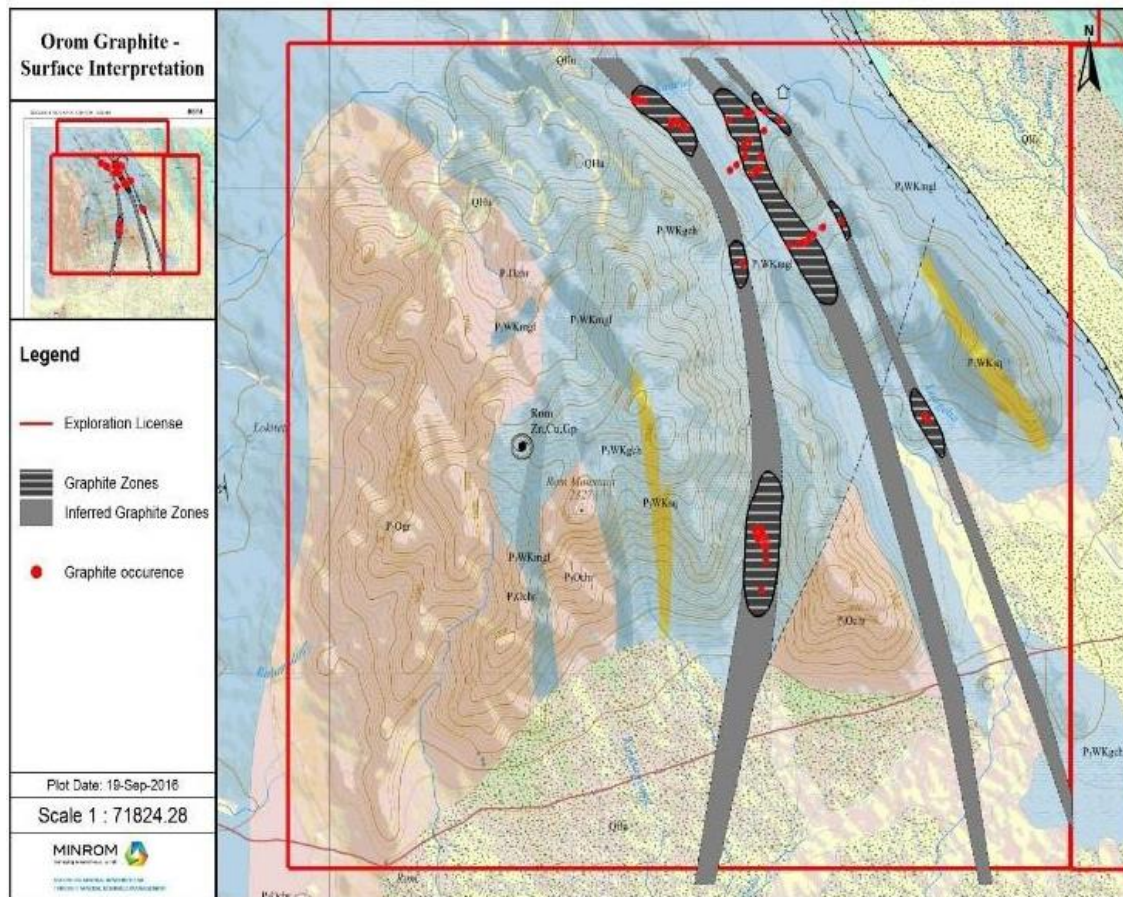


Regional geology. Source: CPR October 2019

Exploration

So far, four phases of modern exploration have been carried out on the property: mapping, diamond drilling, geophysical survey and trenching. Mapping saw a total of 218 samples taken, which were analysed for total graphitic carbon (TGC), with 184 showing greater than 5% TGC; 68% of those were above 7% TGC, with the best sample assaying 15.9% TGC.

Independent South African geological expert Minrom, in its report on Phase 1 mapping and exploration drilling on the project published in 2015, showed that graphite occurrences were more predominant in the NE part of the licence area. Phase 2 has seen 600m of diamond drilling to a depth of 20-30m, involving several holes. As a result, a significant volume of graphite was discovered along a 19km strike length running North-South with a width of 1-1.5km.



Plan depicting the graphite mineralisation. Source CPR October 2019 from Minrom Report 2015

Before Blencowe acquired Orom-Cross in 2021, CAR had undertaken exploration work involving field mapping and geophysical surveys (VTEM and Aeromagnetic), right through to the determination of exploration targets. Indeed, these activities pointed to a considerable graphite deposit of some 19km in length and 2km in width, which was shallow in nature and contained up to 75% of jumbo-large flake size in situ. The Competent Persons Report (CPR) dated October 2019 was highly positive, concluding that whilst there was no formal JORC-compliant MRE, based on similar but more advanced graphite projects in the neighbouring countries of Tanzania and Mozambique, it is likely that the project's graphite mineralisation is hosted within abundant weathered surface material, which should be mined using free-dig at depths of 0-25m, requiring zero drill and blasting.

Early on, Blencowe prepared an exploration target based on the existing exploration data at the project's northern end, where graphitic units form an interpreted syncline fold. The Orom-Cross Graphite Project consists of abundant jumbo size graphite flakes, and the mineralisation occurs near surface. Similar styles of graphite mineralisation around the world suggest that low-cost open-pit mining methods may easily mine the deposit.

Drilling

Since acquiring Orom-Cross, the company has defined and delivered a substantial exploration work programme which began with an initial diamond drilling programme to deliver a maiden JORC Code Inferred Resource. This drilling programme was completed in July 2020 and included further infill and step-out drilling at the Western Anomaly and the newly discovered high-grade Camp Lode. In total, 65 holes for a total of 1,950m were drilled. The maiden JORC MRE was delivered in April 2021 and consisted of Indicated & Inferred Mineral Resource for the Northern Syncline deposit of 16.3Mt @ 6.0% TGC (at a 4% TGC cut-off), which doubled the targeted 8-10Mt. This included higher grade zones of 3Mt @ 8.1% TGC (at a 7% TGC cut-off). It is important to realise that the resources commence at the surface to a depth of 30m. Drilling ended in mineralisation, so the deposit is open at depth. Drill results from higher grade Camp Lode deposit were planned to be added into a further Orom-Cross JORC Resource statement, further boosting both tonnes and average grade.

A second in-fill diamond drill programme of 74 holes for 2,220m was completed in August 2021. This programme involved an additional 38 infill holes totalling 1,140m which were completed in the Northern Syncline and a further 36 holes for 1,080m in the Camp Lode.

Drilling highlights at Camp Lode. Source: Company

Hole ID	Grades and widths
OREA-L1302	11m at 9.73% TGC from 3m including 6m at 10.97% TGC
OREA-L1401	5m at 10.30% TGC from surface
OREA- L1501	14m at 11.81% TGC from 4m
OREA-L701	19m at 9.78%TGC from 2m
OREA-L1201	17m at 10.35% TGC from 2m including 7m @ 12.21% TGC
OREA-L401	19m at 9.49% TGC from surface

This second drilling programme delineated a substantial JORC standard resource in the Indicated and Measured categories. The Total Resource increased by 50% to 24.5Mt at 6.0% TGC which contained sufficient Measured and Indicated Resource for the first 15 years life of mine. There was a 340% (9.4Mt) increase in Indicated and Measured Resources to 13.2Mt, giving a higher level of accuracy and confidence in the deposits to be mined.

Revised JORC Standard Mineral Resource – updated April 2022. Source: Company

Area	JORC category	Mt	% Total Carbon
Northern Syncline	Inferred	10.6	5.78
	Indicated	10.4	5.85
	Measured	1.0	5.70
	Sub-total	21.9	5.80
Camp Lode	Inferred	0.6	7.50
	Indicated	1.9	7.40
	Sub-total	2.5	7.42
TOTALS	Inferred	11.2	5.87
	Indicated	12.3	6.09
	Measured	1.0	5.70
TOTAL		24.5	6.0

Metallurgy. Source: Company Revised JORC Resource April 2022

Deposit	Upgraded Concentrate (% TGC)	Recoveries (%)
Northern Syncline Lower grade	98.1%	80.9%
Northern Syncline Higher grade	97.2%	80.9%
Camp Lode Lower grade	98.1%	80.4%
Camp Lode Higher grade	94.7%	88.4%
Composite (mix of all)	97.3%	90.1%

Grade has been shown to remain consistent over the extended zones drilled at both the Northern Syncline and the Camp Lode deposits, with high-grade zones evident within the Northern Syncline, including 3.4Mt @ 8.4% TGC. Global Measured, Indicated and Inferred Resource for higher grade Camp Lode was 2.5Mt @ 7.4% TGC at a 3.5% TGC cut-off plus there was a further 4.2Mt potential resource available there with additional drilling.

Scoping Study

The company completed an internally generated Preliminary Economic Analysis (PEA) or Scoping Study in 2021 which outlined low operating costs and robust financials for a mining operation with a Net Present Value (8) of US\$317 million and 49% IRR over 13-year life of mine from 2025. The PFS was based on initial 14 years life of mine, including all mine operations, processing, logistics and sales.

Pre-Feasibility Study

Soon after completing the PEA, the company moved on to the PFS. Metallurgical test work has confirmed that the 97% composite concentrate produced has been of high quality with its unique specific element content, which is expected to boost market demand for all the end-products that Blencowe plans to sell. Orom-Cross is blessed with a highly compelling combination of around 36% of its 97% end-products being larger flake size categories meaning a substantial weighted average selling price for its basket of all end-products, together with one of the lowest total operating costs of any graphite project worldwide.

PFS KPIs. Company announcement 19 July 2022

Key Performance Indicator		Company's comments
Life of Mine	14 years¹	Can extend at any stage with further drilling
Average tonnes mined per annum	1.6Mtpa	Start-up 600kta, moving to 2.4Mtpa in year 7
Average tonnes (concentrate) produced annually over life of mine	101,000tpa	Start-up 36ktpa, moving to 147ktpa by year 7 1.41M tonnes over life of mine
Initial Capital Requirement	US\$62 million	Plant, infrastructure and contingency
Net Present Value (NPV) ²	US\$482 million	Represents an 8x return on initial capital invested
Internal Rate of Return ²	49%	Highlights the strong return on investment
Weighted Average Selling price per tonne – starting position	US\$1,370/t	Five different end-products with ~50% in the higher value +100 to + 50 mesh fraction size
Operating Cost (FOB Mombasa port) – average over life of mine	US\$499	C2 costs, including mining, processing, admin, manpower, logistics, sales and marketing
Average EBITDA per annum – over life of mine	US\$100 million	US\$1.398 billion total EBITDA earned over the life of the mine
Free Cash Generated	US\$1.073 billion	Net cash (after tax and royalties) delivered to company over life of mine

¹ - Initial stage Life of Mine based on having drilled ~1-2% of the deposit to date ² - Post-tax and using a 8% discount rate

All of this suggests attractive operating margins over life of mine, which could deliver over US\$1 billion in free cash to Blencowe as a return on investment. It is worth noting that 94% LOI represents the entry level for battery-grade graphite, with anything above this level attracting a premium price.

PFS (2022) forecast and market prices. Source: Lone Star Technologies Graphite Pricing Report June 2022.

Mesh Size	Concentrate (% LOI)	End Product %	Mid-2022 Sales Prices US\$ 96-97% LOI	Forecast 2025 Sales Prices US\$ 96-97% LOI
Jumbo +32 / +50	98.0%	13.7%	2,600	2,904
Large +80	97.7%	22.5%	1,340	1,474
Medium +100	97.2%	24.7%	940	1,030
Small +200 / -100 / -200	96.5%	39.1%	730	824
Weighted Average/t		100%	1,190	1,307
Operating Cost/t (FOB port)				499

Definitive Feasibility Study

The Blencowe management team do not waste time, and the company embarked on the DFS In late 2022. The company has sensibly appointed a well-respected engineering firm with plenty of experience in African graphite projects to manage the whole DFS. Perth-based CPC Engineering (CPC) will lead and develop Orom-Cross's DFS.

A vital element of the 2023 DFS is the pre-qualification of the end products. Since the company acquired Orom-Cross, a hefty investment has been made in substantial metallurgical test work to demonstrate that mined graphite can be upgraded into a high-grade concentrate so that various end products can be delivered to the market. To date, the graphite material at the project has come through such tests with flying colours. In January 2023, the final metallurgical testing programmes began with samples sent to China and the USA. This remaining metallurgical test work ensures that the company's high-quality 97% LOI concentrate can be upgraded cost-effectively to a more purified >99.95% product. This applies to both the SPG (spheronised, purified graphite) that goes into the batteries and the expandables product that goes into other applications.

Work by IMO in Perth had produced a concentrate which was seen to be high grade with low chemical impurity characteristics. 20kg of this concentrate was recently flown to technical experts at the Wuhan University of Technology (WUT) in China to begin the final metallurgical test procedure. This is planned to be followed by studies in China on a 100t bulk sample in a local pilot facility. Another 5kg of this concentrate has been sent to a leading US graphite technical firm American Energy Technologies Co (AET), for spherical purified graphite (SPG) and expandables testing. Work by AET will also confirm that Orom-Cross concentrate can be further upgraded efficiently into a >99.95% battery-grade product.

The real focus is on signing offtake partners into Memorandums of Understanding (MOUs) for the sale of product ahead of signing binding contracts. Beyond this work, there will only be testing required by the OEMs themselves (which is likely to involve sending 30kg samples of 99.95% anode-ready product, once completed, to 5-10 OEMs) to verify all the data and allow the company to move to the offtake agreements stage. The successful end product testing will provide the ability to contract the complete 50,000tpa Stage 1 plant output.

The DFS will involve the detailed analysis of all strategy, operational and capital costs associated with the project. Crucially, there will be third-party sign-off from an experienced engineering firm to ensure all data is accurate and complete. This stage will involve plant design, peer reviews and the selection of an Engineering, Procurements and Construction (EPC) contractor, who will provide a quotation for the delivery of a complete processing facility. All this development work will underpin the decision to mine for the Orom-Cross project (1H 2024) and provide funding options for building all plant and infrastructure (2H 2024) with targeted first production from 2025.

Three stage production process. Source: Company

Stage	Stage 1	Stage 2	Stage 3
Build	2024	2027	2030
Commission	2025	2028	2031
Plant capacity	800,000tpa	Lifted to 1.6Mtpa	Lifted to 2.4Mtpa
End product volume	Starts at 36,000tpa and ramps up to 50,000tpa	Ramps up from 50,000tpa to 100,000tpa	Ramps up from 100,000tpa to 147,000tpa
Capex	US\$62 million	US\$48 million	US\$50 million
Financing	Debt (60%) – US\$37m Equity (40%) – US\$25m (Project level equity)	Debt ~US\$20m Project funds ~US\$28m (Using free cash from project)	100% project funded

It is worth noting that if off-takers contracted during DFS (2023) wish to acquire up to 100,000tpa end-products, and the project funding is available, Blencowe may consider amalgamating both Stages 1 and 2 shown above into initial mine construction. This is likely to result in further capex savings.

Strategy for growth

Tremendous timing

The rising demand for small flakes of quality for the battery market is clear evidence that the graphite market is shifting in the manner that has been predicted for some time. Right now, the graphite market is not yet in a deficit, which analysts seem to be predicting for 2025. However, there are signs that the market is heading that way with increased demand from China which is the fastest-growing EV market in the world. US and European markets are still lagging, but there is activity. All of this should come as little surprise as more than three hundred EV battery megafactories are expected to come online over the next 8-10 years, and they will demand substantially more graphite than today. Once these megafactories are up and running, they will hugely impact graphite demand and prices.

A structural deficit is forecast for flake graphite from 2025 onwards – that is the opinion of BMI and other leading graphite analysts, but time will tell. The flake and synthetic graphite to anode supply chains are among the most fragmented of all lithium-ion battery raw materials. The leading market research house in this field is BMI which believes that the graphite market is evolving very swiftly, and more change is expected as the world heads towards 100 million expected EVs by 2030 – and it doesn't stop there, as forecasted EV numbers will accelerate further into the 2030s. It is all down to whether demand for EVs keeps rising or whether macroeconomic issues in world markets slow that down. The Blencowe team will be testing the markets in 2023 with the completion of various key elements of the work for the DFS and in seeking offtake contracts.

Forward strategy and anticipated timelines. Source: Company

Timing	Key milestones
Q1	Revised JORC Resource upgrade delivered ✓ Final metallurgical test results delivered ✓
Mid-2022	Pre-Feasibility Study completed ✓ Offtake partners identified ✓
2H 2022	Definitive Feasibility Study begins ✓
2023	Offtake and funding secured as part of the DFS
End- 2023	Completion of DFS and decision to mine (Stage 1 main plant investment)
2024	Development of main plant and infrastructure
2025	Commencement of Stage 1 mining and ramp up thereafter

High quality graphite & potentially massive scale

Around six months ago, Blencowe sensed a fundamental shift in the graphite market, with the price of small fines rising as projected demand-supply issues finally began to impact. So, the market is moving, and prices are rising, but time will tell how far that goes. Experts do not seem to be forecasting a 10-fold increase as happened with the lithium price, but even a 2x increase would make a massive difference to the company's economic model. The biggest increase in demand will be in small flakes (+100 mesh and smaller) for battery markets. Whilst the coarse flake market is expected to exhibit a steady 5% growth rate per annum, customers will continue to pay a premium price per tonne. Expandable graphite is in high demand, and there is a real shortage of supply for high quality material hence the higher prices, as relatively speaking, China does not have a lot of coarse flake mines. Blencowe is blessed with high-quality coarse flake graphite, and the company plans to sell 35% into coarse market (expandables) and 65% into the battery market.

The Orom-Cross Graphite Project is valuable, with the PFS in July 2022 determining an impressive NPV8 of US\$482 million. There is obviously tremendous upside potential as the mine life (and/or quantum produced) could easily be doubled. As only some 1-2% of the Orom-Cross deposit has been drilled to date, the mine life could be far longer with additional drilling. On top of that, there has also been an incremental increase in the price for small flakes, which will make up 65% of the company's overall end products. Higher cash costs would probably see Blencowe using a 10% discount rate in the DFS, which would have given a US\$402 million NPV10 using the same PFS numbers, which is still highly impressive.

Progressing rapidly through DFS

The focus is now on the DFS, which is expected to be completed within the next 12 months. Most probably, the key work strands are the Chinese metallurgical work, including the 100t bulk sample pilot testing which is underway, along with the SPG testing and expandables testing. This will confirm that Orom-Cross concentrate upgrades efficiently to >99.95% expandables and battery grade products. Plus, there is Original Equipment Manufacturer (OEM) testing, negotiating offtake contracts and on-site work and gaining better visibility on the tax status. Further drilling is not being considered at this stage with the same resource to be used in the DFS as in the PFS, which is a total resource of 24.5Mt @ 6.0% for 1,470,000t graphite where the 14Mt Indicated & Measured ore will feed into the plant over the current initial planned life of the mine.

Blencowe will ensure that negotiating offtake agreements and financing are bound into the DFS. This is an important point, as the board wants to ensure that all the test work and other activities are tailor made to suit the end users. It should be pointed out that end quality is hugely important for both demand and price received, so full pre-qualification and testing required all the way to OEMs will ensure that the company gets the best results and the highest quality offtake partners.

The board is not unduly concerned about this future end-product quality testing as Orom-Cross graphite came through bench tests in both Canada and Australia with distinction. Still, now such tests are being repeated with a 100t bulk sample going through the pilot plant in China, which ought to produce 6 tonnes of 97% concentrate (far more than 100kgs that resulted from the Australian tests). Switching the pilot plant testing from Uganda to China was a masterstroke which will save the company US\$7 million on building and operating their plant. Instead, they will use an existing plant in China where the costs will come at a far more acceptable total price of just US\$1.5 million for all testing and pre-qualification. This sums up the flexible approach to the DFS that the management team uses to ensure all work is done to the highest standard but at the lowest cost.

Moving into the DFS stage will see a reassessment of the project's mining strategy, conceived as a low-cost open pit truck and shovel operation. The PFS used a Stage 1 capex of US\$62 million which looked attractively low for an 800,000tpa plant capacity producing 36,000tpa concentrate initially, rising to 50,000tpa, plus all infrastructure. Moving ahead, capex figures are likely to be marginally higher with inflation but still low and should not impact the NPV too much, given the improving sales price forecast being circulated by metal market analysts. Blencowe will seek to put in place offtake agreements targeting a total of 50,000tpa high-grade concentrate (spread across 3-4 end products) with binding contracts into China and Asia as a start, and maybe more. We know that Orom-Cross has good infrastructure at site with tar roads, hydropower from the grid, along with good communications. A rail option is expected to be in place by 2025, but it looks likely that the DFS will be initially based on road transport to Mombasa, which is 25% more costly but planned to be reduced once the railway option is fully functional and up and running.

Highly attractive value proposition

There are an increasing number of other graphite projects now on the market. Still, Blencowe has some key advantages as Orom-Cross has size and scale, high quality concentrates and low mining cost, coupled with an attractive mix of flakes and rapid forward progress (with 21 year Mining License already awarded) that is hard to match. Geological experts Minrom estimate 2-3 billion tonnes of graphite at Orom-Cross, where the area earmarked for production for the initial scheme covers just 1-2% of the potential size of this giant project. Certainly, the company can ramp up production rapidly to meet the anticipated growth in demand, as well as significantly extend mine life. Orom-Cross has an enviable mix of coarse and smaller mesh-sized end-products, resulting in a high-weighted average selling price. At the same time, the project is exhibiting low operating costs capable of delivering high operating margins and EBITDA.

Undoubtedly, the PFS has shown a long life, profitable mine that delivers significant cash flow and NPV, along with attractively low capital costs to start production. Importantly, as mentioned earlier, the team is ensuring that both Offtake and Funding Partners are locked in within the 2023 DFS. With high quality 97% LOI concentrate with low impurities, it would seem that many such partners could be banging on Blencowe's door. All this is in a safe location with low royalties and taxes. In small-cap resources stocks, the management is as essential as the project, possibly more so. So it is no surprise that a highly experienced team leads this company with a proven track record of executing projects and value creation.

Risks

Geological risks

There are a series of technical risk factors concerning the amount of understanding of the geology of the project areas, the mineralisation style being targeted and the distribution and magnitude of the indicators that have been identified in exploration work.

Political risk

There are political risks involved in companies operating in Uganda.

Graphite price risks

Metal prices are highly cyclical, and changes in the prices of graphite could negatively or positively impact the valuation of the company's projects and revenue from sales.

Exchange rate risks

The company's accounts are in sterling, and graphite metal prices are in US dollars. However, the company's costs are in US dollars and the Ugandan shilling. Therefore, fluctuations in the value of the Ugandan shilling against the US dollar and the US dollar against the pound may affect the valuation that the UK stock market awards Blencowe.

Future funds

The market for raising funds for small-cap companies looks to have improved from the conditions a couple of years ago when the global spread of the COVID-19 pandemic meant that equity markets had become extremely difficult. However, even though the world has opened up, the ratcheting up of political tensions concerning Ukraine, steeply rising gas prices, and growing global inflation has made the market turn its back on risky investments. This has led to several recent fundraisings in the resources sector, seeing share prices being undermined by incoming investors demanding 30-50% discounts to provide the necessary capital.

Board of Directors

Cameron Pearce – Executive Chairman

Cameron was one of the company's founders and has extensive professional experience in the Australian and United Kingdom finance industries. Recently, he has provided corporate, strategic, financial and advisory assistance to private and public companies in Australia and the United Kingdom. Cameron is a member of the Australian Institute of Chartered Accountants and has been in commerce for over twenty years, holding senior financial and management positions in publicly listed and private enterprises in Australia, Europe, Asia, Africa and Central America. He has considerable corporate and international expertise and has focussed on mining and exploration activities over the past decade.

Mike Ralston – CEO

Mike is a Chartered Management Accountant with 25 years' experience successfully developing businesses worldwide, including several in Africa, where he has considerable expertise. He has been a senior executive and board member for several junior listed resource companies over the past 17 years, and raised over A\$300m in debt and equity over that period. Mike brings a wealth of corporate and management experience and has been involved in developing at least three mining companies from start-up through to production. He was previously MD of Balamara Resources Ltd, which developed two large-scale coal projects in Poland. Before that, the CFO of Kangaroo Resources Ltd, which developed several coal projects in Indonesia into production before the trade sale to a major Indonesian coal producer for A\$600m in 2010. Mike is currently a Non-Executive Chairman of ASX listed Trigg Minerals Limited.

Iain Wearing – COO

Iain is a Mining Engineer with 30 years' experience in the resource industry, including significant project experience in Africa. He has been involved in the technical management of African projects for several companies, including Resolute Mining and Barrick Gold. He has managed studies for several significant projects including the Kibali Gold Project for Moto Gold, Syama Project in Mali, and Golden Pride in Tanzania. Iain brings a wealth of technical expertise to the team. His knowledge in study management, operations planning and costing, and operations management, will be critical to the Orom Graphite Project moving forward as the company heads towards first production.

Sam Quinn – Non-Executive Director

Sam is a corporate lawyer with over 15 years' experience in the natural resources sector in both legal counsel and executive management positions. He was previously the Director of Corporate Finance and Legal Counsel for the Dragon Group, a London-based natural resources venture capital firm. He is a partner of Silvertree Partners, a natural resource focussed back-office outsourcing business. Sam currently holds several management roles for listed and unlisted companies and has gained significant experience in the administration, operation, financing and promotion of natural resource companies. Before working in the natural resources sector, he worked as a corporate lawyer for Jackson McDonald Barristers & Solicitors in Perth, Western Australia and Nabarro LLP in London.

Alex Passmore – Non-Executive Director

Alex is an experienced corporate executive with a strong financial and technical background. He managed the debt arrangement for many well-known resource companies and has a wealth of experience in project evaluation. Alex also managed the WA natural resources business of CBA, which comprised a substantial portfolio of loan, hedge, trade finance and working capital products to ASX-listed and multi-national resource companies. Before this, he held senior roles at Patersons Securities and was director of corporate finance and head of research. Alex has a BSc (Hons) in Geology from the University of Western Australia and a graduate diploma of Applied Finance and Investments from the Institute of Securities Australia.

Forecast

FY 2023

In the year ending 30th September 2023, the company is expected to work towards completing the DFS. Given the increasing workload, we have assumed that administration fees and other expenses would increase to £1.00 million, and after adjustments to surface liability, the operating loss would come out at £0.95 million. After financing costs and with no tax expected to be paid, the loss for the year attributable to the owners of the parent is forecast to be £1.00 million, with the same figure for the total comprehensive loss attributable to owners of the parent. As a result, the loss per share for the period comes out at 0.51p.

FY 2024

The year ending 30th September 2024 is expected to include the unveiling of the DFS and the settlement of the funding strategy to bring the Orom-Cross Graphite Project into production in the calendar year 2025. With the escalation of work over the construction phase of the project, administration fees and other expenses have been assumed to increase to £1.25 million, and after adjustments to surface liability, the operating loss is expected to be £1.20 million. After £0.10 million of financing costs, the loss before tax is calculated to be £1.30 million. The same figure is seen for the loss for the year attributable to the owners of the parents, as no tax is expected to be paid. On this basis, the total comprehensive loss attributable to owners of the parent is forecast to be £1.30 million. The loss per share for the period equates to 0.66p.

Forecasts. Source: Company Accounts and Resolve Research

Year End 30 September (£'000s)	FY 2021a	FY 2022a	FY 2023e	FY 2024e
Exploration costs	(12)	(5)	-	-
Impairment – Akelikongo project	-	(405)	-	-
Administrative fees and other expenses	(815)	(681)	(1,000)	(1,250)
Adjustments to surface liability	178	51	50	50
Operating loss	(649)	(1,040)	(950)	(1,200)
Finance costs	(45)	(46)	(50)	(100)
Loss before tax	(695)	(1,085)	(1,000)	(1,300)
Income tax	-	-	-	-
Loss for the year attributable to owners of the parent	(695)	(1,085)	(1,000)	(1,300)
Other comprehensive income				
Exchange differences on translation of foreign operations	4	(4)	-	-
Other comprehensive (loss)/income, net of tax	4	(4)	-	-
Total comprehensive loss attributable to owners of the parent	(691)	(1,090)	(1,000)	(1,300)
Earnings per share (p)	(0.61)	(0.68)	(0.51)	(0.66)
Weighted average number of shares	114,070,173	160,790,224	195,714,197	197,929,950
Total shares plus options and warrants	133,179,950	195,179,950	221,929,950	221,929,950

Valuation

Financial modelling

To determine a valuation for Blencowe and a target price for the stock which makes sense in the current market, we sought to value the Orom-Cross Graphite Project based on updating the analysis used in the PFS (mid-2022). A financial model was formulated to cover the three stages of the development of this project using the 3-stage development outlined in the PFS with a 14-year Life of Mine. This model was based on information contained in company announcements, presentations and discussions with management. Below we set out some of the key assumptions made.

Timing – a 14-year period was modelled with Stage 1 construction in 2024 and production beginning in 2025.

Resource: The Total Resource of 24.5Mt at 6.0% TGC (including 13.2Mt in the Indicated and Measured Resources categories) gives sufficient tonnes of ready to mine material that covers the Life of Mine being modelled.

Production: Full production from the main plant is targeted from 2025 with end product volume, as shown in the table below.

Capital expenditure – All capex figures in the PFS were increased by 10-20% to take account of inflation.

Three stage production process. Source: Company and Resolve Research			
Stage	Stage 1	Stage 2	Stage 3
Build	2024	2027	2030
Commission	2025	2028	2031
Plant capacity	800,000tpa	Lifted to 1.6Mtpa	Lifted to 2.4Mtpa
End product volume	Starts at 36,000tpa and ramps up to 50,000tpa	Ramps up from 50,000tpa to 100,000tpa	Ramps up from 100,000tpa to 147,000tpa
Capex	US\$70 million	US\$55 million	US\$57 million
Financing	Debt (60%) – US\$42m Equity (40%) – US\$28m (Project level equity)	Debt ~US\$27m Project funds ~US\$28m (Using free cash from project)	100% project funded

Product prices – It was assumed that offtake agreements would be in place for five end products as high-grade concentrates. To be conservative, we used a weighted average sales price of US\$1,190/t which was seen as the prevailing prices in the company's October 2022 presentation, and discussions with the management suggest that these prices remain about the same now.

Revenue – Beginning in 2025, annual revenue has been calculated to rise from US\$42.84 million to US\$174.93 million in 2031 and then plateau at this sort of level for the remainder of the Life of Mine.

Operating costs –. Operating costs will also be increasing due to inflation. Still, there is a substantial saving on transport costs to the port as the operations gradually switch from road haulage to using the new rail link, which we have factored using a figure of US\$499/t over the project life, as in the PFS.

Taxation and royalties – Corporation tax in Uganda is 30%, but we allowed the tax burden to be reduced by offsetting certain costs and allowable losses. No consideration was made concerning Blencowe's application for a Free Trade Zone License (FTZL) in H2 2022, which would bring considerable advantages, including a 10-year corporate tax exemption and the export of product straight to the coast via free trade zone permit. A royalty rate of 5% was used in this analysis.

Net Present Values. Source: Resolve Research

Discount rate	10%	12%
NPV US\$m	266.57	214.93

Based on our assumptions above, the Net Present Value was determined at a discount rate of 10% and 12%. Although discount rates of 5%, 8% and 10% are commonly used to evaluate projects, to remain conservative, we have chosen to use a 12% discount factor as this higher discount rate serves to de-risk the project further. So, the NPV12 number of US\$214.93 million was used in our further calculations.

The company is seeking to fund the DFS and the construction of the Orom-Cross Graphite Project with investment from offtake and other partners with no recourse to shareholders. We have assumed such and suggest that the funding partners would require a 20% stake in the project based on our analysis. In this analysis, we have considered the level of return needed for these funding partners with consideration of such entities using a less rigorous discount rate along with a more generous future price deck similar to those being forecast by metal market analysts. This would result in Blencowe being fully funded for the project's construction and holding an 80% interest. Based on this, the attributable NPV12 to the company would be 80% x US\$214.93 million, equating to US\$171.94 million.

A well-used project valuation risking rule of thumb would suggest that a project at the PFS stage should attract 30-35% of the NPV. Further risking the project by 65% gives a figure of US\$60.18 million or £49.74 million, which we have transferred into our SOTP table.

Sum Of The Parts Table. Source: Resolve Research

Items	£ million
Orom-Cross Graphite Project (80%) risked NPV12	49.74
Cash	0.50
Debt	-
Sub-total	50.24
Per share based on the current number of shares in issue (196,679,950)	25.5p
On a fully diluted basis	
Funds on options and warrants being exercised	1.53
Total	51.77
Per share based on the number of shares on a fully diluted basis (221,929,950)	23.3p

After considering current cash and debt, the sub-total comes to £50.24 million, equating to 25.5p per share based on the number of currently in issue (196,679,950). Looking on a fully diluted basis, we add in the funds which would result from options and warrants being exercised of £1.53 million, which gives a total figure of £51.77 million – which results in a per share figure of 23.3p based on the number of shares on a fully diluted basis (221,929,950), which is a figure that we have selected to use as our target price for the stock.

Conclusion

Production could begin in 2025

The Orom-Cross Graphite Project seems well-placed to be able to fulfil the long term demand for high quality flake graphite. It is a project where much is already in place as it heads through the DFS stage. Orom-Cross is a substantial graphite deposit that geologists estimate could contain 2-3 billion tonnes, is at an advanced stage and a 21-year Mining Licence has already been awarded. Reassuringly, in place are all the environmental, social and other approvals. Hydro-power gives great ESG credentials too. There is a decent updated JORC resource of 24.5Mt at 6.0% TCG, and already four phases of metallurgical testing have been completed. The PFS (mid-2022) highlighted exceptional returns. If that was not enough, an application from FTZL is underway which could have far-reaching consequences like a ten year holiday from corporate taxation. Mainstream production could begin in 2025 post the completion of the DFS which is targeted for the end of the calendar year 2023 and would include all offtake agreements and project funding.

Demand to outstrip supply

The truth is that Blencowe is highly leveraged into the Battery Metals space to deliver a critical non-replaceable input material used within the Li-ion battery. The flake graphite market is forecast to be in structural deficit from 2025 just as Orom-Cross gets into full production. Widening shortfall in supply and fast-growing demand is likely to cause an enormous imbalance. Few large-scale projects are expected to come online in the next five years with a high proportion of jumbo/large flakes, these projects are rare, especially in a lower risk location. So, it looks as though Orom-Cross could come into production with enviable timing.

Many other potential graphite producers have gone down the route of expanding into downstream battery technologies to add value to their product. Such a move makes sense and could probably mark the next step. However, Blencowe knows it needs to learn to walk before it can run. Such plans to become vertically integrated by moving into the manufacturing of battery anodes are much further off, at the moment the company is wholly focused on making 97% concentrate.

Compelling peer group comparisons

Once Blencowe has spent the US\$7 million on the DFS, the company should look a lot like Black Rock Mining (ASX:BKT) which at the current A\$0.155 share price sits on a market cap of A\$152 million and an Enterprise Value of A\$141 million or £81 million. BKT's Mahenge Project in Tanzania hosts a multi-generational graphite resource and is one of the largest JORC-compliant flake graphite resources globally, with 212Mt @ 7.8% TGC. Black Rock's DFS for the project considers a four-stage construction schedule to deliver up to 340,000tpa of 98.5% LOI premium graphite flake concentrate for 26 years, with the ability to produce Ultra Purity flake of 99% LOI. The current valuation awarded to Black Rock by the market does indicate that our target price is fairly conservative, and we look forward to being able to update our analysis as progress is made and the level of project ownership becomes more certain following the negotiation of asset-level transactions will work for both the DFS and the ultimate development of Orom-Cross.

Progressing the project through the DFS stage looks likely to provide the market with the promise of a burgeoning news flow with the results from China bulk test work, DFS work and offtake agreement all feeding into the DFS, which is confidently expected before the year end. All of this should allow investors to better understand the real potential at Orom-Cross and the rapidly growing market for its high-grade graphite products into which the operation can expand from this highly scalable project. The management at Blencowe have consistently achieved their goals, so we can have plenty of confidence that all the pieces will be in place for the production decision at Orom-Cross to be made in a timely fashion. We are initiating coverage with a Strong Buy stance and a target price of 23.3p.

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