RNS Number : 6004F
Alba Mineral Resources PLC
08 November 2022

Alba Mineral Resources plc

("Alba" or the "Company")

GROC Update: Key Milestone Passed at Amitsoq Graphite Project

Alba Mineral Resources plc (AIM: ALBA) is pleased to note the announcement today by its portfolio company, GreenRoc Mining plc ("GreenRoc") (AIM: GROC), of the completion of a successful spheronisation test work programme on graphite from the Amitsoq Island deposit, part of GreenRoc's flagship Amitsoq Graphite Project in South Greenland. Alba holds a 54% majority interest in GreenRoc. The announcement is set out below without material changes.

Alba's Chairman, George Frangeskides, commented:

"Confirmation that Amitsoq graphite is suitable for the production of spherical graphite marks the achievement of a key milestone for the project. The success of this latest phase of the commercialisation test work programme for Amitsoq graphite provides a very solid foundation for discussions with potential EV industry partners and customers.

"The rapid progress which is being made at Amitsoq underscores the importance to Alba of its considerable stake in GreenRoc."

GreenRoc Mining Plc

("GreenRoc" or the "Company")

Amitsoq Graphite Update
GreenRoc Passes Key Milestone Following Successful Spheronisation Tests

GreenRoc Mining Plc (AIM: GROC), a company focused on the development of critical minerals projects in Greenland, is pleased to announce the results of advanced spheronisation test work conducted by its technical consultants, ProGraphite GmbH ('ProGraphite'), an industry leading graphite research and testing laboratory based in Germany. Sample material taken from the Lower Graphite Layer (LGL) at the Amitsoq Island deposit, part of the flagship Amitsoq Graphite Project in South Greenland ('Amitsoq'), has been tested to assess its ability to produce spherical graphite.

Spherical graphite is used by Electric Vehicle ("EV") battery manufacturing companies as the anode material in an EV battery. The anode sector is the fastest growing market for graphite and the ability to upgrade natural graphite to a high purity spherical graphite product is a prerequisite for entry into that market. GreenRoc is delighted to announce that the micronisation and spheronisation test work conducted by ProGraphite confirms that Amitsoq graphite easily upgrades to a spherical graphite product.

Key Points

- Graphite concentrate from Amitsoq is very suitable for micronisation and spheronisation, with a high-quality spherical graphite easily produced and exhibiting good commercial properties.
- A primary concentrate product of at least 96.5% graphite can be achieved with relatively little processing.
- The concentrate micronised easily and with relatively little energy input, resulting in a very uniform micronised material.
- Two spherical graphite products were then produced, with median diameters of 15 and 19 micrometers, respectively.
- The physical target values for spherical graphite, such as narrow particle size distribution and high tap density, were achieved and exceeded.

GreenRoc's CEO, Stefan Bernstein, commented:

"The successful micronisation and spheronisation of graphite concentrate from the Lower Graphite Layer at the Amitsoq Island deposit is a very significant milestone for our flagship project. It shows that our graphite can be processed into anode-grade graphite, a key raw material in the manufacturing of EV batteries for electric cars. Furthermore, the characteristics of the Amitsoq spherical graphite, such as tap density and narrow size distributions, meet important requirements for anode material.

"It is notable that ProGraphite found that only four flotation cleaning stages were required to reach a primary concentrate product of at least 96.5% graphite. This is very positive as it suggests that our future processing plant in Greenland will be able to run with a reduced number of cleaning stages compared to what had previously been assumed. This will shorten processing time, conserve energy and reduce the costs of production. Over the coming weeks we will conduct further testing and characterisation of our spherical graphite product.

"Spherical graphite is presently only produced in China, so with these test results, Greenroc Mining is well positioned to become an important supplier of raw materials to the EV industry."

Details

ProGraphite in Germany received quarter core intersections of LGL graphite from five drillholes drilled in 2021 at the Amitsoq Island deposit, which is part of the flagship Amitsoq Graphite Project. One single homogenous sample, weighing 45kg, was prepared by compositing crushed material from all the pieces of drill core. After passing one rougher and four cleaner flotation stages, a concentrate with 96.5% graphite was produced. This concentrate was then subjected to micronisation, which serves to reduce the graphite grain size to pre-determined sizes before spheronisation. The micronisation size in turn determines the mean grain size of the spheronised material. Micronisation produced two fractions of graphite, namely one at d50 of 16µm and one coarser at d50 of 21 µm.

Spheronisation was then carried out on that micronised material, using a laboratory-scale spheronisation unit. No issues were encountered in this step either, and the Amitsoq graphite concentrate proved to be easily spheronised. The two micronised size fractions both yielded spherical graphite, with d50 of 19.03µm for the coarser of the two fractions and 15.06µm for the finer. Such size fractions are common spheronised graphite products used by EV-battery makers.

Both size fractions of spheronised graphite show good specifications, expressed as a low size ratio of d90/d10 which are at 2.4 (d50 of 19.03µm) and 2.5 (d50 of 15.06µm) - the requirement for anode material is a ratio of d90/d10 of lower than 3.0 and low values suggest a narrow size interval.

Tap densities are 0.98 and 0.96 kg/l for the coarse and fine fractions, respectively, which exceed the standard minimum requirements of 0.96 kg/l for the coarse fractions and 0.93 kg/l for finer fractions (Tables 1 & 2). A high tap density provides higher capacity for EV batteries.

Feed Grade	Run	Particle Size Distribution			Ratio
		d10	d50	d90	d90/10
M100 M21 (impact milled) d50 21.3 µm	V401	12.41	19.03	29.61	2.4
M100 M15 (impact milled) d50 15.8 µm	V403	9.37	15.06	23.79	2.5

Table 1, showing result of spheronisation of the Amitsoq graphite concentrate, micronised to 21 and 15 µm, respectively. D50 is the median size of the spheronised graphite, here at 19 and 15 µm.

Feed Grade	Run	d50	Tap Density kg/l	Yield SPG %
M100 M21 (impact milled) d50 21.3 µm	V401	19.03	0.98	54
M100 M15 (impact milled) d50 15.8 µm	V403	15.06	0.96	55

Table 2, giving further specifications of the two spheronised graphite products.

The yield was 54% for the coarse fraction and 55% for the fine fraction - which is at the higher end of the typical range for batch spheronisation and suggests a minimal loss of material to undersize during processing.

The high quality of the spheronised graphite from Amitsoq can be appreciated by inspecting the Scanning Electron Microscope images presented in Figures 1 and 2 - both are from the coarse fraction with d50 of 19.03µm, with the images captured at different magnifications. In both images, the graphite grains can be seen as being well rounded and with quite narrow size distribution, in turn ensuring close packing and high capacity when used as anode material for EV batteries.

Further tests relating to purification and the measurement of various physical and electrochemical parameters of Amitsoq graphite will be conducted in due course in order to provide potential customers and end users with a full set of specifications in future commercial discussions.

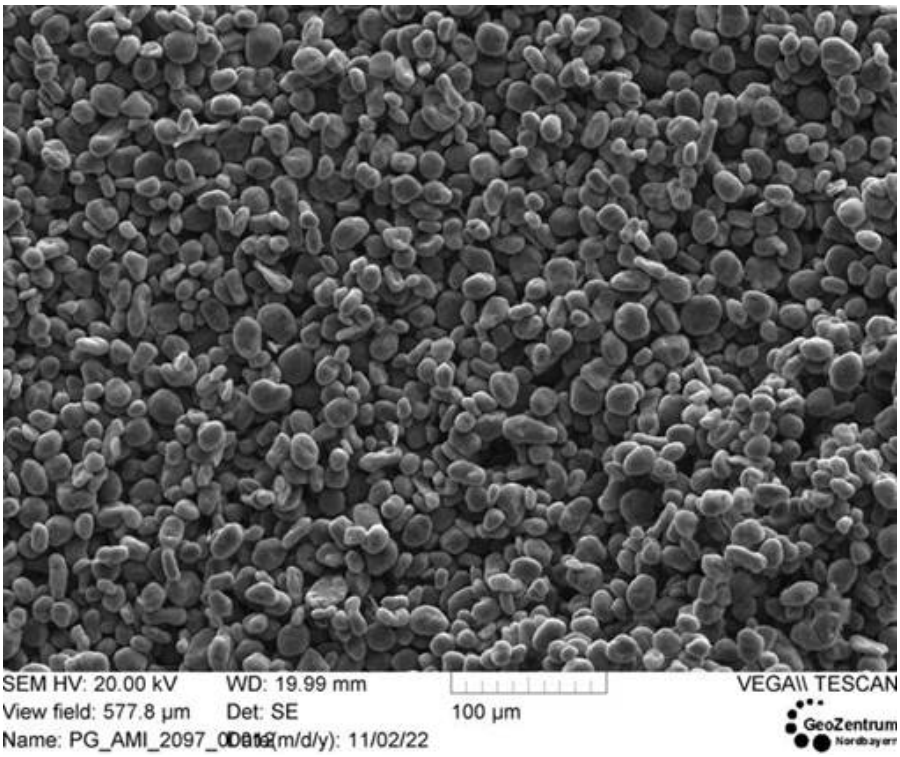


Figure 1. SEM image of Amitsoq spheronised graphite (d50 of 19.03µm). Note the well-rounded potato-shape particles. Scale bar of 100µm (=0.1mm).

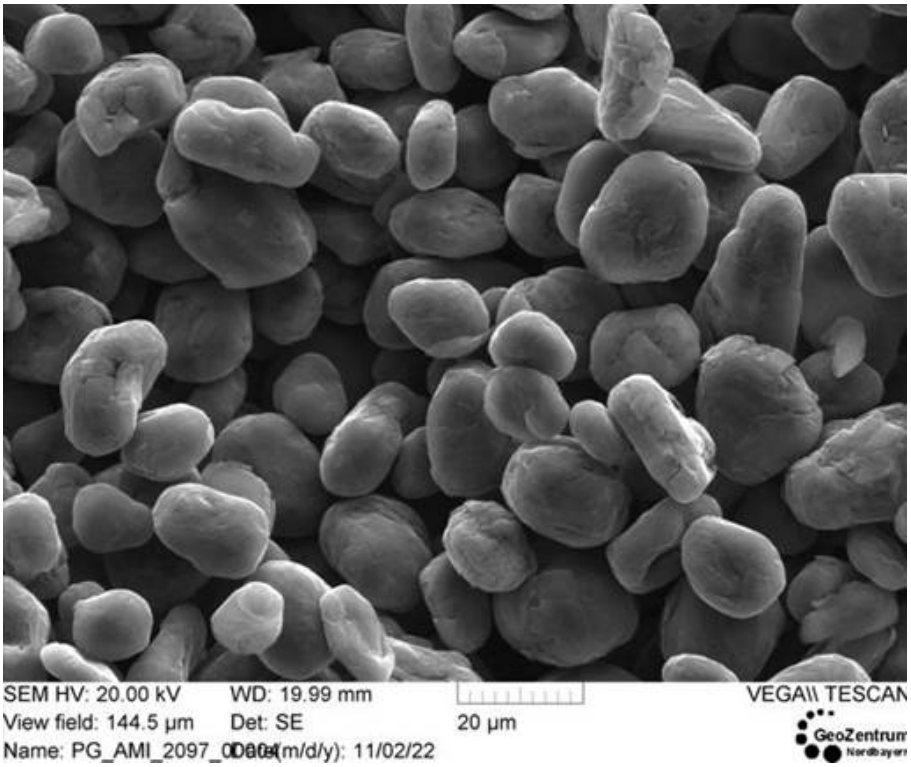


Figure 2. SEM image of Amitsoq spheronised graphite (d50 of 19.03µm). Scale bar of 20µm (=0.02mm).

Conclusion

Only four stages of flotation cleaning were required to achieve a concentrate containing 96.5% graphite, thus vastly exceeding the minimum requirements of 94% graphite for spherical graphite production. The concentrate

micronised and spheronised easily and the two size fractions which were produced not only meet but in fact exceed the physical requirements for the anode material used in the manufacturing of EV batteries.

This announcement contains inside information for the purposes of the UK Market Abuse Regulation and the Directors of the Company are responsible for the release of this announcement.

Glossary

C(g)% or Graphitic Carbon: Carbon may be present in rocks in various forms including organic carbon, carbonates or graphitic carbon. Carbon in rocks may be reported as fixed or total carbon (i.e. organic carbon + carbon in carbonate minerals + carbon as graphite) or as graphitic carbon or total graphitic carbon (or TGC) (i.e. total carbon - (organic + carbonate carbon)). In this report, graphite results are indicated as graphitic carbon or % C(g).
d10: The portion of particles with diameters smaller than this value is 10%.
d50: The portions of particles with diameters smaller and larger than this value are 50%. Also known as the median diameter.
d90: The portion of particles with diameters smaller than this value is 90%.
µm: micrometer. One µm = 1/1,000 mm.
Tap density: Density measured after a certain volume of spherical graphite is stored in a container and subjected to low frequency vibration. The higher the density, the more closely packed are the graphite spheres, which is good for the resulting battery capacity.

Competent Person Declaration

The information in this release that relates to Exploration Results has been reviewed by Mr Mark Austin. Mr Austin is a member of SACNASP (Reg. No. 400235/06), Fellow of The Geological Society and Fellow of the Geological Society of South Africa. He has a B.Sc. Honours in Geology with 38 years' experience.

Mark Austin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration targets, Exploration Results, Mineral Resources and Ore Reserves', also known as the JORC Code. The JORC code is a national reporting organisation that is aligned with CRIRSCO. Mr Austin consents to the inclusion in the announcement of the matters based on his information in the form and context in which they appear.

Forward Looking Statements

This announcement contains forward-looking statements relating to expected or anticipated future events and anticipated results that are forward-looking in nature and, as a result, are subject to certain risks and uncertainties, such as general economic, market and business conditions, competition for qualified staff, the regulatory process and actions, technical issues, new legislation, uncertainties resulting from potential delays or changes in plans, uncertainties resulting from working in a new political jurisdiction, uncertainties regarding the results of exploration, uncertainties regarding the timing and granting of prospecting rights, uncertainties regarding the timing and granting of regulatory and other third party consents and approvals, uncertainties regarding the Company's or any third party's ability to execute and implement future plans, and the occurrence of unexpected events.

Actual results achieved may vary from the information provided herein as a result of numerous known and unknown risks and uncertainties and other factors.

About ProGraphite

ProGraphite GmbH is a specialist consultancy laboratory based in Germany and has served the carbon and graphite industry for more than 20 years. ProGraphite provides in-house testing capacity over a wide range of carbon and graphite products and is an industry-leading expert.

****ENDS****

For further information, please visit www.albamineralresources.com or contact:

Alba Mineral Resources plc

George Frangeskides, Executive Chairman +44 20 3950 0725

SPARK Advisory Partners Limited (Nomad)

Andrew Emmott +44 20 3368 3555

OvalX (Broker)

Thomas Smith +44 20 7392 1494

St Brides Partners (Financial PR)

Isabel de Salis / Catherine Leftley alba@stbridespartners.co.uk

Alba's Projects and Investments

Mining Projects Operated by Alba	***Location***	***Ownership***
Clogau (gold)	Wales	100%
Dolgellau Gold Exploration (gold)	Wales	100%
Gwynfynydd (gold)	Wales	100%
Limerick (zinc-lead)	Ireland	100%
Investments Held by Alba	***Location***	***Ownership***
GreenRoc Mining Plc (mining)	Greenland	54%
Horse Hill (oil)	England	11.765%

This information is provided by RNS, the news service of the London Stock Exchange. RNS is approved by the Financial Conduct Authority to act as a Primary Information Provider in the United Kingdom. Terms and conditions relating to the use and distribution of this information may apply. For further information, please contact rns@lseg.com or visit www.rns.com.

RNS may use your IP address to confirm compliance with the terms and conditions, to analyse how you engage with the information contained in this communication, and to share such analysis on an anonymised basis with others as part of our commercial services. For further information about how RNS and the London Stock Exchange use the personal data you provide us, please see our Privacy Policy.

END

MSCFFFVLLSLDIIF