

# **March 2017 Quarterly Activities Report**

27 April 2017

# Battery Minerals Makes Rapid Operational and Corporate Progress during the March Quarter

# **QUARTER HIGHLIGHTS:**

- Lithium Ion Battery anode Pre-Feasibility Study (PFS) and Montepuez Graphite
   Definitive Feasibility Study (DFS) confirm robust economics
- Significant progress during the quarter in capacity to deliver a purified spherical graphite (PSG) mining and processing operation
- Highly-regarded mining executive and industry leader David Flanagan appointed as Executive Chairman, Cherie Leeden appointed Executive Director, Technology and Business Development
- Other key appointments to leadership team further bolster capabilities
- The cumulative impact of the appointments listed above is that the Company has made a large, and very significant step in PSG project delivery

Battery Minerals Limited (ASX: BAT) is pleased to report on its operating activities for the March 2017 quarter (the "Quarter").

The key achievement in the reporting period is the delivery of a highly positive economic assessment of an integrated mining and processing purified spherical graphite ("PSG") operation. The PSG operation comprises flake graphite production in Cabo Delgado, Mozambique and a separate PSG production facility in Nevada, USA.

With conservative pricing assumptions both the projects demonstrated exceptional opportunity for shareholders and the Company is now rapidly advancing the projects towards production.

## **BAT Introduction – A Key Supplier for the LiB Market**

Battery Minerals has developed a significant position in the lithium ion battery ("LiB") market and is working to capitalise on its early-mover advantage to embed the Company as a globally important supplier of ethically-produced PSG in the early stages of this energy revolution.

LiBs are a significant driver of an energy revolution in the development of electric vehicles and energy storage technologies across the world. PSG is used as the anode material in the devices due to its high conductivity and is an essential component in LiBs.

Battery Minerals has discovered and defined in excess of 100 million tonnes of high grade graphite resources in the east African country of Mozambique (See ASX release dated 15 February 2017 for further details). Mozambique has the world's largest graphite endowment of any country and it is currently undergoing a significant period of exploration, mining and infrastructure investment.

The Company is now in the process of selecting a PSG plant and a site in Nevada, USA suitable to support a larger scale anode production plant. The facility will be exclusively for the use of Battery



Minerals and capable of commercial rates of production. The Company is now moving to process a bulk sample from the Montepuez graphite project through this facility later this year. In processing the bulk sample, the Company will then have sufficient data to achieve a DFS level of confidence in spherical graphite production from our Montepuez graphite. The study will focus on the supply of purified uncoated spherical graphite for use as anode material in LiBs.

# Purified Spherical Graphite PFS and Montepuez Graphite DFS Results Summary

During the Quarter, the Company released the results of a PSG PFS and Montepuez Graphite DFS which confirmed the robust economics. The assumptions are conservative and represent a strong foundation on which to move to project approvals, customer agreements and project development.

The consolidated PSG PFS and Montepuez Graphite DFS Consolidated Study shows very strong economic outcomes from the integrated operation including the following:

- Outstanding project economics consolidated NPV of US\$524 million and IRR of 36.2%
- Rapid payback period of 3 years
- Long mine life of 30 years
- Significant consolidated cashflow from operations of approx. US\$2.4 billion
- LOM average annual cashflow from operations of US\$80 million
- LOM consolidated revenue of US\$7.1 billion
- Lowest quartile on the cash cost curve for flake graphite DFS OPEX
- Significant optimisation potential exists to reduce OPEX and CAPEX

See ASX release dated 15 February 2017 and subsequent presentations for further details.

## **Project Execution**

On completing the DFS and PFS described above the Company has now moved to a staged development approach as part of minimising pre-startup capex and funding subsequent project expansions from cashflows.

The first phase, Stage 1 comprises bulk sample mining of approximately 2,000 tonnes of Montepuez high grade graphite ore due to commence in the June quarter 2017. Local companies and local people will feature significantly in tenders, site visits and community consultation process. The exported ore sample will be concentrated at toll treating facility before subsequent spheronisation at the Company's proposed demonstration plant in Reno, Nevada USA. The processing of the ore will take approximately 12 weeks and will provide sufficient data to conclude the balance of the economic parameters for a definitive feasibility study and to meet final phase battery end user due diligence requirements for achieve binding offtake agreements.

While Stage 1 bulk sample mining and processing is underway, the Company will continue to advance full scale mining approvals for the Montepuez project as defined in the DFS released in February.

The Company anticipates that Stage 2 of the project execution will have the benefit of the large scale bulk sample information and the commercial scale spherical plant installed in Nevada during Stage 1.

Prior to commencing mining operations, the Company must be granted mining leases and conclude a Mining Agreement with the Government of Mozambique. A number of precedents exist for similar operations. We are encouraged by Mozambican government representatives who remain fully supportive of the responsible development of mineral resources. The Company expects to submit its mining license application during the June 2017 Quarter.



#### **Exploration and Resource Development**

During the Quarter the Company produced its maiden Reserve for the Montepuez Project as well as a global resource update. This is a major achievement since first pegging the tenement and making the grass roots discovery only a little more than two years ago.

While the Company is satisfied in the size, grade, metallurgical properties and resource to reserve conversion rate, ongoing exploration activities continue to indicate further opportunities to improve project economics through targeted exploration. It also appears possible to define distinct resources that will provide opportunity for strategic partners to participate at the project level. The Company will continue to maintain a meaningful exploration presence on the ground in Mozambique and we expect to be rewarded with continued discovery over time.

The Ore Reserve Estimate as at January 2017 for Buffalo and Elephant deposits is 41.4Mt @ 8.80% TGC for 3.64Mt of graphite reported at a cut-off grade of 4% TGC, whilst the total Mineral Resource January 2017 for Buffalo and Elephant deposits is 105.9Mt @ 7.74% TGC for 8.2Mt of graphite reported at a 2.5% TGC cut-off. See ASX release dated 15 February 2017 for further details.

The Company's resource inventory is globally significant and provides the opportunity to export premium natural flake products, whilst the chemical structure and easy liberation attributes (low impurities) of the graphite also offers unique opportunities in the battery sector.

The graphite resources remain open in every direction ensuring mine life opportunity beyond the currently scheduled 30 years. The Company will continue to invest in growing resources and reserves.

## **Marketing and Customer Contracts**

The Company has completed extensive test work over a period of 12 months comprising several hundreds of kilos of graphite concentrate which it has delivered to companies in Asia and north America. The Company has also run batches of Montepuez and Balama concentrate through it's JV spheroniser to produce spherical graphite, and has provided these spherical graphite samples to various chemical, trading and battery producers. Feedback to date has been very encouraging and has been used to fully optimise the spherical graphite DFS.

Using Battery Minerals' graphite, the Company has also manufactured our own lithium ion batteries that are currently in the early stage of test work and due diligence.

As part of the bulk sampling test work described above the Company intends to produce between 50 and 100 tonnes of battery grade spherical graphite before the end of Q1 2018. The plant will be 100% owned by Battery Minerals.

Product will not be sold but delivered to key battery producers that have expressed an interest in entering into long term supply agreements with the Company. Stage 1 represents a campaign test of commercial scale production and will prove our capability to market participants.

#### **CORPORATE**

## **Key Appointments to leadership team**

During the Quarter experienced mining executive David Flanagan was appointed Executive Chairman. In this role, David has assumed key day-to-day management responsibility for the Company, across all its operational and corporate initiatives.

In the new role as Executive Director, Technology and Business Development, Cherie Leeden will oversee all technical aspects associated with the current spherical graphite facility in which the www.batteryminerals.com



Company maintains a JV interest, oversee the evaluation and implementation of the proposed 100% Company owned facility in the USA, and will examine other downstream opportunities in Asia and Europe.

Mr Tony Walsh was appointed as Joint Company Secretary and General Manager, Special Projects providing corporate, investor relations and corporate compliance assistance to the Company.

Subsequent to the end of the Quarter, the Company announced three further appointments with Asia and investment bank specialist, Mr. Paul Glasson appointed a non-executive director, experienced mining and development executive, Andy Cardoso appointed as Project Director to develop the Company's Mozambique graphite project, and Graham Fyfe appointed as Project Manager to lead the Company's development of its planned lithium ion battery anode (spherical graphite) facilities.

All the appointments listed above are a big step in delivering a mining business with downstream value added processing. The introduction of more than 100 years of experience across African resource project development, project financing, corporate strategy, commodities marketing and corporate governance means the business is competitively positioned to capture opportunities as they arise, deliver value for shareholders and properly manage risk.

## **Annual General Meeting**

The Company advises that its AGM will be held on **Friday 26 May 2016 at 3.00pm** at AMEC, 6 Ord Street West Perth, as per the Notice of Meeting lodged with the ASX on 26 April 2017.

## **Kroussou Project JV**

In November 2016, the Company entered into an option agreement with Trek Resources (ASX code: TKM) whereby Trek can elect to enter into a joint venture agreement in respect of the Kroussou Zinc project in Gabon. Key Terms of the agreement included;

- Drill Option Trek to fund an initial near term drilling program at Kroussou up to US\$250,000.
- Should Trek elect to exercise this option (prior to 31 July 2017), Trek will pay Battery Minerals US\$240,000 in cash and/or shares and secure the right to earn 30% of the Kroussou Project through the expenditure of US\$1M within 12 months of the exercise date.
- Trek can then earn a further 40% of the Project up to a 70% interest through the expenditure of US\$3M in the subsequent 24 months.
- Trek agrees to free carry Battery Minerals through to the completion of a PFS (Pre-Feasibility Study, as defined in JORC 2012). At that point Battery Minerals will have the option to contribute to the delivery of a DFS (Definitive Feasibility Study as defined in JORC 2012) or dilute, via standard industry formulae to 5% whereby below that, it's interest will convert to a 2.5% Net Smelter Royalty (NSR). Trek will have the option to buy back 1% of this royalty through the payment of US\$1M to Battery Minerals.

Subsequent to the end of the Quarter, on 12 April 2017, Trek advised the ASX of the visual identification of lead zinc mineralisation in drilling at the Kroussou Zinc project in Gabon with assay results currently pending.

We are encouraged by this early success and look forward to further updates from Trek in due course.

## **Ruby Project**

During the Quarter the Company negotiated to divest its equity interest in an exploration tenement to "Mozambican Ruby Lda" in Mozambique in favour of a gross revenue royalty of 4%.



For further information, please contact

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#### **Forward Looking Statements**

Statements and material contained in this document, particularly those regarding possible or assumed future performance, resources or potential growth of Battery Minerals Limited, industry growth or other trend projections are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Such forecasts and information are not a guarantee of future performance and involve unknown risk and uncertainties, as well as other factors, many of which are beyond the control of Battery Minerals Limited. Information in this presentation has already been reported to the ASX.

#### **Competent Persons Statement**

All references to future production and production & shipping targets and port access made in relation to Battery Minerals are subject to the completion of all necessary feasibility studies, permit applications, construction, financing arrangements, port access and execution of infrastructure-related agreements. Where such a reference is made, it should be read subject to this paragraph and in conjunction with further information about the Mineral Resources and Ore Reserves, as well as the relevant competent persons' statements.

Any references to Ore Reserve and Mineral Resource estimates should be read in conjunction with the competent person statements included in the ASX announcements referenced in this report as well as Battery Minerals' other periodic and continuous disclosure announcements lodged with the ASX, which are available on the Battery Minerals' website.

The information in this report that relates to Battery Minerals' Mineral Resources or Ore Reserves is a compilation of previously published data for which Competent Persons consents were obtained. Their consents remain in place for subsequent releases by Battery Minerals of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

The information in this report that relates to Mineral Resources and Ore Reserves is extracted from the ASX Announcement titled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' dated 15 February 2017 and DFS and PFS information is extracted from the ASX announcement entitled 'Lithium Ion Battery anode PFS and Montepuez Graphite DFS confirm robust economics' dated 15 February 2017, both of which are available at Battery Minerals website at http://www.batteryminerals.com.au in the ASX announcements page.

Battery Minerals confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the market announcements continue to apply and have not materially changed. Battery Minerals confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.



#### Tenement Summary - 31 March 2017

Tenement Reference	Location	Nature of interest	Interest at beginning of Quarter	Interest at end of Quarter
6216	Mozambique	Granted	100%	100%
Kroussou	Gabon	Granted	100%	100%²
4118	Mozambique	Acquisition completed subject to transfer of licence.	100% <sup>2</sup>	100%
8555	Mozambique	Application	-	-
8609	Mozambique	Application	-	-

1. Trek Minerals has option to fund an initial near term drilling program at Kroussou up to US\$250,000. Should TKM elect to exercise this option (prior to 31 July 2017), TKM will pay BAT US\$240,000 in cash and/or shares and secure the right to earn 30% of the Kroussou Project through the expenditure of US\$1M within 12 months of the exercise date. Option agreement contemplates Trek earning up to 70% via additional expenditure.

2. MINING TENEMENTS DISPOSED								
Tenement Reference	Location	Nature of interest	Interest at beginning of Quarter	Interest at end of Quarter				
Reference	Location	Nature of litterest	Quarter	Quarter				
5572	Mozambique	Divested	100%	-				

3. BENEFICIAL PERCENTAGE INTERESTS HELD IN FARM-IN OR FARM-OUT AGREEMENTS: NII

4. BENEFICIAL PERCENTAGE INTERESTS HELD IN FARM-IN OR FARM-OUT AGREEMENTS ACQUIRED OR DISPOSED: NII