

## December 2017 Quarterly Activities Report

30 January 2018

# Battery Minerals moves to development of Montepuez following successful fund raising

### QUARTER HIGHLIGHTS:

#### Montepuez Graphite Project

- Early earthworks commenced and long lead items contracted for
- Mining Licence on target for grant in March 2018 Quarter
- Montepuez commissioning start and ramp up on target for December 2018 and March 2019 Quarters respectively
- Environmental Impact Assessment approval granted
- Infill grade control drilling completed in December 2017 Quarter, assay results due in March 2018 Quarter

#### 80% of offtake secured via agreements with Urbix, Keshuo, GEM & Black Dragon

- Three binding offtake agreements signed with Guangxing Electronic Materials (GEM), Keshou and Black Dragon for 10,000tpa each
- Binding offtake term sheet with Urbix signed for up to 11,000tpa

#### Corporate

- \$20mil fund raising successfully completed in January 2018 following shareholder approval on 5 January 2018
- Board restructure completed on 25 January 2018. David Flanagan moves to Managing Director and Jeff Dowling, independent Non-Executive Chairman

#### Balama Central Graphite Project

- Feasibility study expected to be completed in mid-2018
- Diamond drilling completed in December 2017 Quarter, assays pending

Graphite-development company, Battery Minerals Limited (ASX: BAT), is pleased to advise it has made significant progress in the December 2017 Quarter towards bringing its Montepuez Graphite Project in Mozambique into development (Montepuez). Battery Minerals published the results of the Value Engineering Study on Montepuez on 18 October 2017. Since then work has commenced on an early earthworks tender and the Company has entered into contracts for the construction camp and crusher delivery. Montepuez remains on target for commissioning in the December 2018 Quarter and export its first shipment of graphite concentrate in the March 2019 Quarter.

The Mining Licence Application for the Montepuez Graphite Project is progressing well with approval expected in the March 2018 Quarter. Battery Minerals has completed the Environmental Impact Assessment (EIA) for Montepuez. Following submission during the December 2017 Quarter, has received EIA approval from the authorities.



the project generating outstanding financial returns. The VES questioned every key financial and operational assumption contained in the Montepuez DFS, which was released in February 2017 (see ASX release dated February 15, 2017).

The VES found the Montepuez Graphite Project would enjoy extremely strong economics if a series of key operating changes were adopted. The VES found that the project's capital cost could be slashed from US\$126M to just US\$42.3M and operating costs could be cut from US\$422/t to US\$337/t.

With CAPEX now down to US\$42.3M and OPEX per tonne of concentrate of US\$337/t based on processing ~500,000t of ore at a grade of 12%TGC, it is expected that Montepuez will initially produce 45,000 - 50,000t pa of graphite flake concentrate at up to 97% TGC.

These substantial cost reductions would stem from a combination of increasing the mined grade from 8.8% TGC to 12% TGC over the first 10 years of mine life, having a smaller infrastructure footprint, lower water consumption and increased recoveries supported by additional metallurgical and processing test work. The Montepuez Graphite Project still maintains a 20-year mine life with significant extension potential.

A summary of the key Montepuez Graphite Project VES findings (compared to the February 2017 DFS findings) are shown below:

	October 2017 VES	February 2017 DFS
<b>LoM years</b>	10 <sup>(1)</sup> (Initial)	30
<b>Annual concentrate production tonnes</b>	45,000 - 50,000t pa	100,000t pa
<b>Project payback period years</b>	<2 years	4.75 years
<b>Grade of graphite mined (TGC %)</b>	12%	8.8%
<b>OPEX <sup>(2)</sup></b>	US\$337/t	US\$422/t
<b>CAPEX estimate (pre-production)</b>	US\$42.3 million	US\$126 million
<b>Average annual EBITDA <sup>(3)</sup></b>	>US\$20 million	US\$27 million
<b>Ave Grade of graphite concentrate shipped (TGC %)</b>	96.7%	96%

Notes to table

- Based on the Ore Reserve released by the Company to ASX on 15 February 2017 – First 10+ years at 12% TGC and then next 10+ years at 7-8% TGC
- Total cash costs FOB Pemba – all site costs plus transport, excluding royalties
- Based on the long-term basket price for concentrate in the Feb 2017 DFS. The Company used US\$798/t as a long-term basket price for its concentrate in the Feb 2017 DFS. Current Independent market commentators supported by market analysis indicates long term basket price in a range US \$847-950/t. The Company continues to use conservative long-term pricing assumptions while pursuing operating costs in the lower quartile of global operations.

Battery Minerals' Montepuez Graphite Project VES targeted key development capital and operating cost elements defined in the DFS. The objective of the Montepuez Graphite Project VES was to significantly improve financial returns by optimizing the processing plant through modularization, refining the mine plan to produce a higher head grade, reducing the size of the initial tailings dam and water supply facility and increasing concentrate recoveries through a series of successful metallurgical and processing test work.

## **Montepuez Graphite Project Exploration**

An infill grade control (pre-production) drilling program has been completed at the Montepuez Graphite Project in December 2017 Quarter with assay results expected in the March 2018 Quarter.

## **Marketing and Customer Contracts – 80% of production subject to binding offtake**

The Company continued advanced discussions and technical due diligence with potential customers for flake and spherical graphite during the period, with 4 binding offtake agreements signed during and after the end of the December 2017 Quarter, and negotiations with other parties ongoing. With up to 41,000 tpa committed, Battery now has up to 82% of Montepuez State 1 production subject to binding offtake. The Company will continue to undergo product qualification and due diligence processes with other parties including battery manufacturers and reputable commodity trading houses.

### Binding offtake term sheet signed with Urbix Resources

On 19 December 2017, Battery Minerals announced that it had signed a binding sales agreement with a leading US-based graphite processor Urbix Resources LLC, a privately-owned company based in Arizona, USA. The binding offtake agreement covers a minimum of 5,000tpa and up to 11,000 tonnes of graphite concentrate per year, equal to more than 20 per cent of the initial forecast annual output from Battery Minerals' Montepuez project. The offtake agreement is for a three-year term starting in 2019.

In addition to the offtake agreement, Battery Minerals has also signed a binding Test-work Term Sheet and Memorandum of Understanding (MoU) covering Toll Treatment and Technology commercialization with Urbix.

### Offtake Agreement with GEM

Following the signing of a Memorandum of Understanding ("MoU") in October 2017, subsequent to the December 2017 Quarter end, on 18 January 2018, Battery Minerals announced it had signed a second binding offtake agreement for 3 years for 10,000tpa of graphite concentrate with graphite producer, Qingdao Guangxing Electronic Materials Co. Ltd ("GEM") is a privately-owned company based in Shandong in China with extensive expertise in mining, production, downstream processing and marketing of graphite.

### Offtake Agreement with Black Dragon

Subsequent to the December 2017 Quarter end, on 19 January 2018, Battery Minerals announced it had signed a third binding offtake agreement for 3 years for 10,000tpa of graphite concentrate with Qingdao Black Dragon ("Black Dragon"), a privately-owned company based in Shandong in China with extensive expertise in mining, production, downstream processing and marketing of graphite.

### Offtake Agreement with Keshou

Also subsequent to the December 2017 Quarter end, on 22 January 2018, Battery Minerals announced it had signed a fourth binding offtake agreement for 3 years for 10,000tpa of graphite concentrate with specialist spherical graphite and anode production company, Qingdao Keshuo New Materials Technology Co. Ltd ("Keshuo"), a privately-owned company based in Shandong in China. It specialises in production of spherical graphite and anode utilising its own IP technology.

### Battery now has binding offtake for up 82% of Montepuez product

The four binding offtake agreements with Urbix, GEM, Black Dragon and Keshuo are significant steps forward for Battery Minerals' plans to produce, export and sell high grade, high quality graphite from its flagship Montepuez Graphite Project, which it expects to commission in December 2018. Battery Minerals now has binding offtake agreements for a minimum of 71.5% and up 82% of Montepuez product, representing up to 41,000tpa of graphite concentrate.

### Battery Minerals signs MoU with MEIWA Corporation

On 31 October 2017, Battery Minerals announced that it has signed a non-binding Memorandum of Understanding ("MoU") with Meiwa Corporation, a Tokyo Stock Exchange listed Japanese public corporation with extensive expertise in marketing graphite flake concentrate and purified spherical graphite across Asia (see 31 October 2017 announcement for full details).

From an operating perspective Meiwa Corporation's capacity as a trader and producer, and Battery Minerals' ability as an emerging supplier of battery materials are complimentary. The parties agree to negotiate in good faith to complete commercial sales agreements for the benefit of both parties.

### **Infrastructure and Logistics**

As previously advised, during the September 2017 Quarter, the Company secured an allocation of port capacity with the National Rail and Port authority of Mozambique – Portos e Caminhos de Ferro de Moçambique (CFM). This firm and binding allocation, which is at the Port of Pemba being the closest port to the Montepuez and Balama Graphite Projects, is sufficient to underpin the Company's proposed graphite production and export of up to 100,000 tonnes per annum from the Company's projects in the Cabo Delgado province of Mozambique. As part of this written commitment to Battery Minerals, CFM has also undertaken to work with the Company to ensure that sufficient stockpile and warehouse capacity is available to facilitate the proposed exports.

### **Balama Central Graphite Project**

On 26 October 2017 Battery Minerals was pleased to announce that a Concept Study, including preliminary metallurgical testwork, had highlighted the outstanding potential of its Balama Central Graphite Project in Mozambique (Balama). Balama is Battery Minerals' second graphite project in Mozambique.

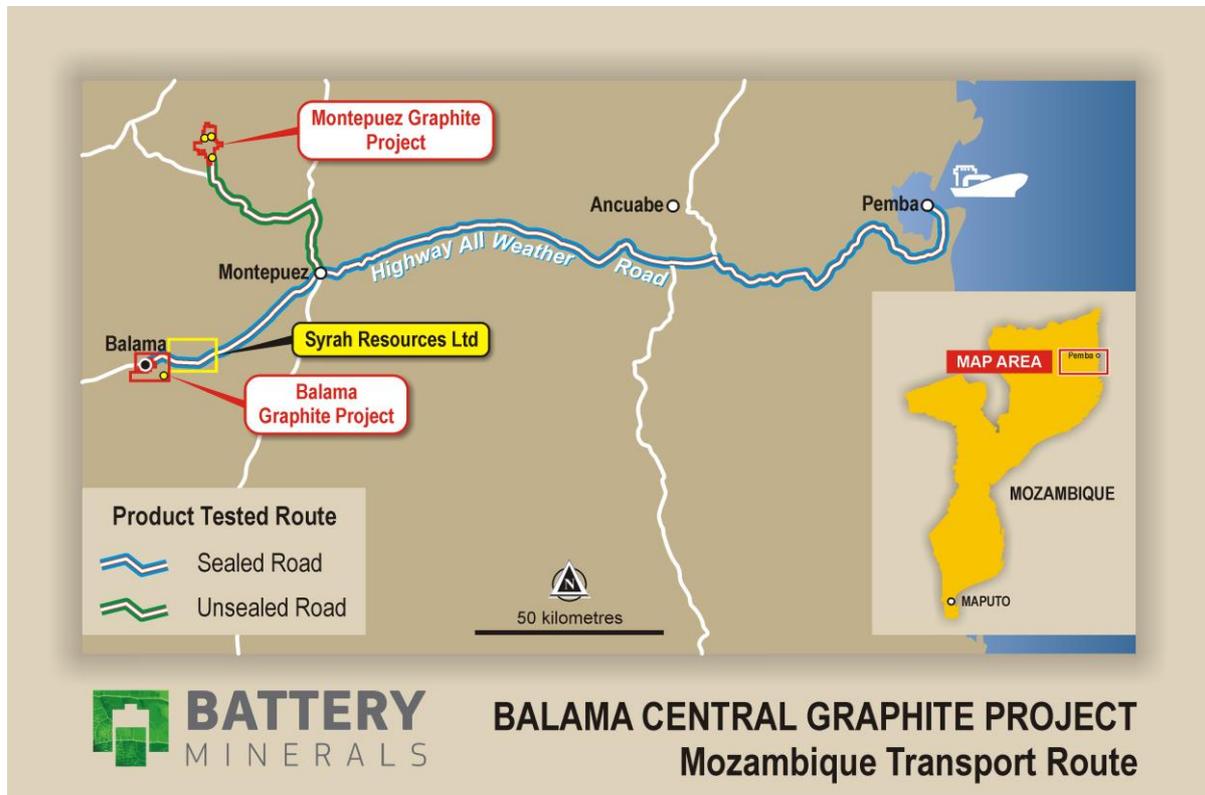


Figure 5. Infrastructure map showing the Balama Graphite Project relative to Montepuez and the nearest deep-water port of Pemba

The following summarises the material aspects of the outcomes from the Balama Concept Study

- The Balama Concept study demonstrates the outstanding potential of Balama,
  - Preliminary metallurgical testwork highlights Balama’s ability to produce high-quality graphite flake
  - Preliminary testwork indicates very coarse flake sizes, returning on average 54% of higher-value large and jumbo graphite flake (Table 2)
  - In light of these strong results, Battery Minerals has started a feasibility study and is targeting completion by mid-2018
  - The Environmental approvals process has begun and an additional 1600m of diamond drilling was completed in December 2017 Quarter
  - Balama’s Mineral Resource stands at 16.3Mt at 10.4% TGC for 1.7Mt of contained graphite<sup>1</sup>
  - Exploration target indicates significant exploration upside remains <sup>1</sup>
1. See 21 March 2016 ASX announcement entitled “Maiden JORC Graphite Resource at Balama Central Project - Mozambique” for full details

Battery Minerals also conducted additional flake size assessment on Balama ore sample using ALS Metallurgy Laboratory in Perth, Australia to process a 500 kilogram sample. The test work indicated a considerable proportion of coarse flake sizes; returning on average 54% for Large (180-300um) and Jumbo (>300um) flakes within the weathered ore zones. This work further supports previous indicative work by MLA and Actlabs Geometallurgy of Ontario Canada with 30 samples submitted from the Lennox Deposit located within the Balama Central License.

## Product size and specification

**Balama Central Flake Graphite Concentrate Sizing**

Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
<b>Fine</b>	-100 Mesh	0 - 150	37%	97%
<b>Medium</b>	+100 Mesh	+150 -180	9%	97%
<b>Large</b>	+80 Mesh	+180 -300	25%	96%
<b>Jumbo</b>	+50 Mesh	+300	29%	96%

Table 2 Balama Central Project product sizing and concentrate grades

The results of this preliminary test work indicate that Balama has the potential to produce higher-value jumbo and large flake 96% TGC and 97% TGC concentrates. This approach has been discussed with market participants and consistent feedback has been that the proposed 97% premium fines product will be sought after and provide a point of differentiation against some other products in the market. The basket price for Balama Central product at the end of December 2017 was US\$1,216 per tonne (per Benchmark Mineral Intelligence)

### Balama Central Graphite Project Exploration

A drilling program, designed to provide a resource upgrade in H1 2018, has been completed at the Balama Central Graphite Project in December 2017 Quarter with assay results expected in the March 2018 Quarter.

### CORPORATE

During and subsequent to the end of the December 2017 Quarter, the Company completed a \$20 million fund raising comprising of \$19.5 million by way of placement ("Placement") to institutional, sophisticated and professional investors and \$500,000 in commitments under a drilling-for-equity arrangement. As at the date of this report, the Company has cash and liquid assets of \$18.78M.

Under the Placement, Battery Minerals issued approximately 325 million shares at 6c per share ("New Share") in two tranches in November 2017 and, following shareholder approval on 5 January 2018, on 15 January 2018. Each New Share was issued with one free option which is exercisable at 10c on or before 31 July 2018 ("Option")

The Company anticipates approvals and granting of mining tenure to underpin construction commencing at Montepuez in the March Quarter 2018. The Company remains completely focused on developing the Montepuez mining and processing operation in a timely, cost effective and safe manner in close consultation with the community and all key stakeholders.

In order to achieve wet commissioning and ramp up of the Montepuez Graphite Project from November 2018, in a little over 10 months, the Company will be focused on this exclusively. The Company will continue its downstream research and development focus on spheroidisation for anode production. While the results of this test work continue to exceed all expectations, the board has resolved to focus on successfully commissioning the Montepuez Graphite Project mining and processing operation before it re-commences investment in and construction of a spherical plant.

### Gabon: Kroussou Project JV

Subsequent to the end of the December 2017 Quarter, Trek Metals and Battery Minerals signed a binding term sheet for Trek Metals to acquire 100% of the Kroussou Project from

Battery Minerals for an up-front consideration of US\$400,000 in a mix of cash and securities and a deferred consideration of shares and options subject to the definition of an Indicated Resource at Kroussou. In addition, Battery Minerals will retain a 2.5% NSR subject to a 1% buyback option by Trek Metals. See Trek Metals' ASX announcement dated 11 January 2018 for full details.

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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 Montepuez 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.

Any references to Mineral Resource estimates on the Balama Central Project should be read in conjunction with the competent person statements included in the ASX announcements referenced in this report (see 21 March 2016 ASX announcement entitled "Maiden JORC Graphite Resource at Balama Central Project - Mozambique") 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 announcement that relates to Balama Central Mineral Resources and Exploration Target is extracted from the ASX Announcement titled 'Maiden JORC Graphite Resource at Balama Central Project - Mozambique' dated 21 March 2016 which is 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.

## Appendix 1: Tenement Summary – 31 December 2017

<b>1. MINING TENEMENTS HELD</b>				
<b>Tenement Reference</b>	<b>Location</b>	<b>Nature of interest</b>	<b>Interest at beginning of Quarter</b>	<b>Interest at end of Quarter</b>
8770C	Mozambique	Mining Licence Application	100%	100%
Kroussou G4-569 & G4-588	Gabon JV	Granted	100%	100% <sup>1</sup>
4118	Mozambique	Granted	100%	100%
8555	Mozambique	Granted	100%	100%
8609	Mozambique	Granted	100%	100%

1. Trek Minerals have an option to earn 30% of the Gabon Kroussou Project through the expenditure of US\$1M within 12 months of the option exercise date. Option agreement contemplates Trek earning up to 70% via additional expenditure.

### **2. MINING TENEMENTS DISPOSED NIL**

### **3. BENEFICIAL PERCENTAGE INTERESTS HELD IN FARM-IN OR FARM-OUT AGREEMENTS: NIL**

### **4. BENEFICIAL PERCENTAGE INTERESTS HELD IN FARM-IN OR FARM-OUT AGREEMENTS ACQUIRED OR DISPOSED: Nil**

**Note:** As advised in the March 2017 Quarterly Report, the Company has agreed to dispose of its interest in the tenement numbered 5572 in Mozambique in exchange for a royalty interest. The transfer for the divestment of this tenement is currently being processed in Mozambique and is expected to be concluded in due course