## Mozambique – Real Opportunity















Benchmark World Tour Hong Kong 10<sup>th</sup> September

### Corporate Overview





Jeff Dowling Non-Exec Chairman



**Ben Van Roon** Chief Operating Officer



**David Flanagan** Managing Director



Tony Walsh Company Secretary & GM Corporate



**Brett Smith**Non Exec Director



**Jeff Dawkins** Chief Financial Officer



Gilbert George
Non Exec Director



Naomi Scott Country Director and General Counsel



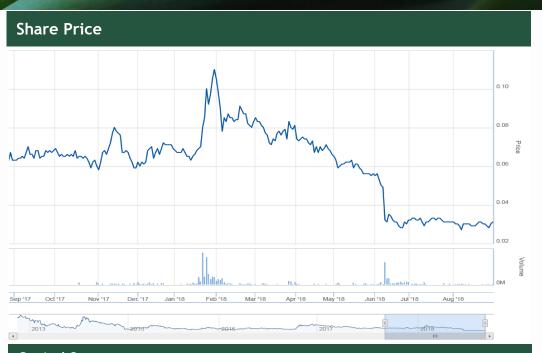
Paul Glasson Non Exec Director (based in China)



Ivy Chen
Non Exec Director

"More than 300 years industry experience across board and management"

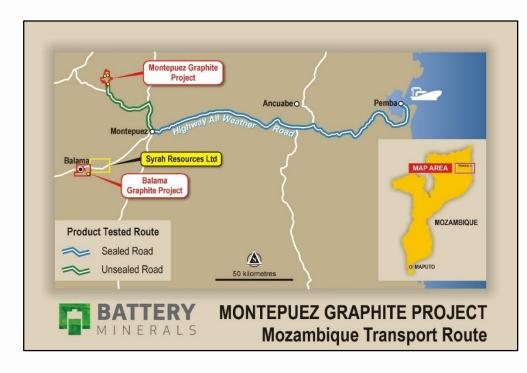
"Proven performers. People that have developed a new mine every year for the last 10 years"



Capital Structure	
Shares on Issue (ASX Code: BAT)	1,113.7M
Board and Management	>10% fully diluted
Share price (as at 29 <sup>th</sup> August 2018)	~3.1cps
Market Capitalisation (as at 29th August 2018)	~\$35.6 million
Cash at bank (as at 30 <sup>th</sup> June)	~\$20 million
Enterprise Value	~\$15.6 million
Top 20 Shareholders	~40%
Listed Options (ASX Code: BATO)	~172.3 million
Unlisted Options	~146.7 million

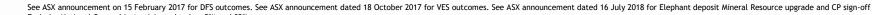
### Project 1 Montepuez





Montepuez Graphite Project <sup>2</sup>	VES (First Module)
Annual graphite production	45,000 - 50,000pa
Capex (pre-production)	US\$51.2 M
Opex (concentrate/t) <sup>7</sup>	US\$378/t
Grade processed	12% TGC
Plant Type and Scale	Modular, ~500ktpa
Projected Payback	~2 years <sup>5</sup>
Net Operating Cash Flow	~US\$20 Mpa <sup>5</sup>
Metallurgical Recovery	>80%
Mine Life <sup>3</sup>	+10 years <sup>4</sup>
Graphite Concentrate purity	96-97% TGC

- Timing: Mining Licence granted, First Exports 12 months from finance completion
- Proven Logistics: bulk sample delivered to port in 2017, 260km logistics chain tested and proven
- **Port Allocation approved:** at Pemba Port for 100,000tpa of graphite concentrate
- Expansion to 100ktpa: USD 25-29M for additional 45-50,000tpa
- Indicated & Inferred Resource: 115.6Mt @ 7.51% TGC @ 2.5% cut-off<sup>1</sup>, Target for additional 3-400Mt at 5-10% TGC<sup>6</sup>
- Proven and Probable Reserve: 41.4Mt @ 8.8% TGC @ 4% TGC cut-off<sup>1</sup>



Excludes National Ownership (anticipated to be -5%) and 32% tax rate
Based on Ore Reserves (see ASX released dated 15 February 2017) prepared by a competent person in accordance with the JORC Code. All material assumptions underpinning the production target in that announcement continue to apply and have not materially changed



Mine life of +10 years at 12% TGC plus 10+ years at 7-8% TGC

<sup>.</sup> BAT has used US \$798/t FOB Pemba as a long term basket price for it's concentrate in the Feb 2017 DFS. Current Independent market commentators supported by our detailed market analysis indicates long term pricing in a range US \$847-950/t FOB Pemba.

<sup>.</sup> The potential quantity and grade is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

Operating costs are sensitive to movements in diesel price. A 30% increase in diesel price would deliver an increase in operating costs of approximately 10%

## Permanent Camp Construction - on track





## Plant Site Earthworks - on track

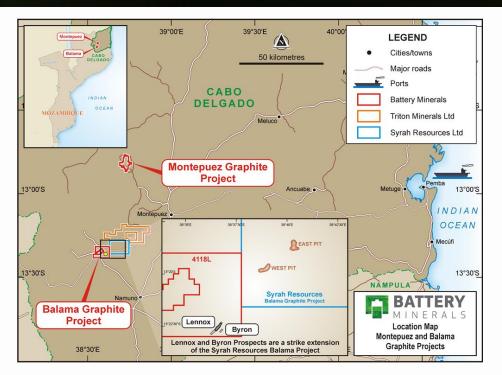




# May 2018 Satellite Image Elephant Deposit Buffalo Deposit Plant Site Camp Warthog Prospect Tailings dam Haul Road

### Project 2 Balama





Balama Graphite Project <sup>2</sup>	Scoping Study
Annual graphite production	50,000 - 55,000pa
Capex (pre-production)	US\$50 M
Opex (concentrate/t) <sup>6</sup>	US\$372/t
Grade Processed	10.6% TGC
Plant Type and Scale	Modular, ~550ktpa
Projected Payback	<1.5 years <sup>5</sup>
Net Operating Cash Flow	>US\$30 Mpa <sup>5</sup>
Metallurgical Recovery	>93%
Mine Life <sup>3</sup>	+10 years <sup>4</sup>
Graphite Concentrate purity	96-97% TGC



- Timing: Feasibility Study conclude H2 2018
- Logistics: Bulk sample delivered to port in 2017, 260km logistics chain tested & proven by Montepuez bulk sample
- Port Allocation: Discussions on allocation ongoing, capacity is available to cater for Battery Minerals exports of 200ktpa
- Expansion to 100ktpa: USD 30-35M for additional 50-55,000tpa
- Resource <sup>3</sup>: Total Mineral Resources of 32.9Mt at 10.2% TGC (6% TGC cut off), Indicated Mineral Resources 26.6Mt at 10.3% TGC, includes indicated resources of 11.8Mt at 14.8%TGC (8% TGC cut off)
- Feasibility Study to consider processing grade parameters of 10.26% 15.95% TGC (see Appendix for grade tonnage curve)
  - 1. See ASX announcement dated 1 March 2018 for Balama Central Scoping Study outcomes. All material assumptions underpinning the production target in that announcement continue to apply and have not materially changed Excludes National Ownership (anticipated to be -5%) and 32% tax rate
  - See ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement.

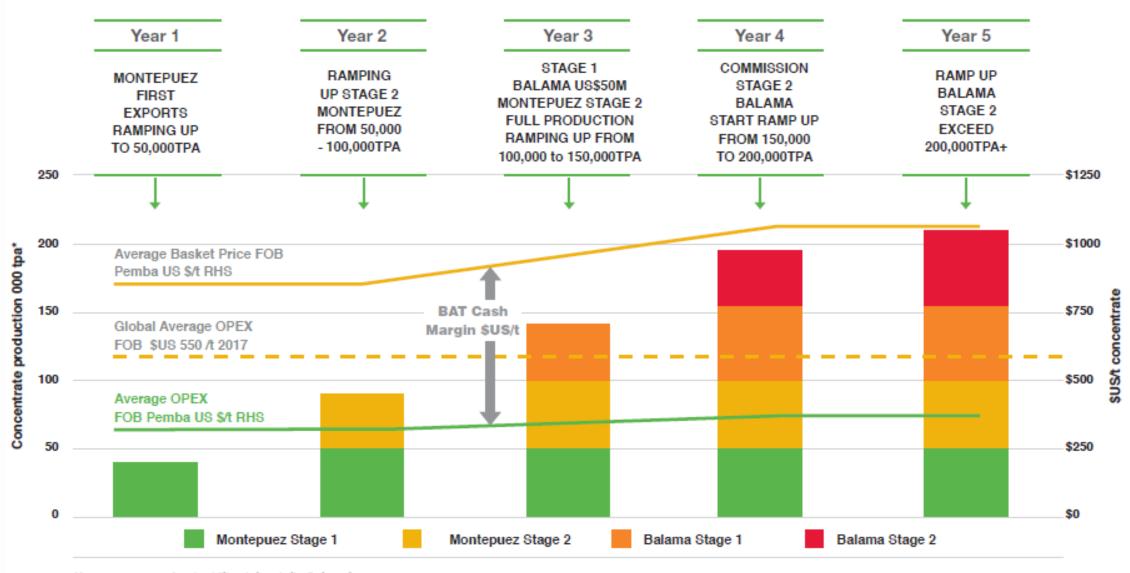
4. Mine life of +10 years based on 2016 Indicated Resources only

- 5. BAT has used US \$1,100/t as basket price FOB Pemba for it's Balama Central concentrate. The current market basket price for it's Balama Central concentrate is greater than US \$1,100/t FOB Pemba.
  - Operating costs are sensitive to movements in diesel price. A 30% increase in diesel price would deliver an increase in operating costs of approximately 10%



### Production Profile - Significant opportunity



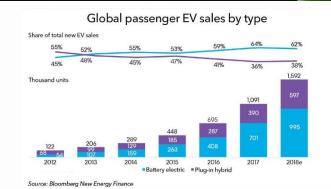


<sup>&</sup>quot;Assumes ramp-up of each additional stage in the first quarter

### Graphite Market - Large growing market



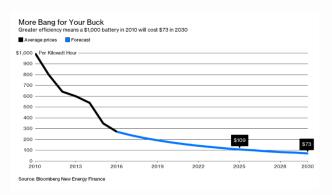








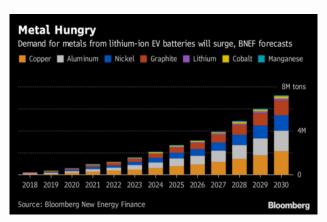
















### **Current Projects**

**Project** 

100,000tpa

Processing

**Exploration** 

Vanadium

Opportunity

**Downstream Graphite** 

Description



· · Ojest	Description	Status
Montepuez Graphite Project stage 1 50,000tpa, planning for expansion to 100,000tpa	Produce 50,000tpa @ >96% TGC OPEX cost FOB Moz USD \$372/t CAPEX remaining @ Jan 1, 2019 USD \$38M Target mine life 30 years at 12% TGC run of mine grade	<ul> <li>DFS, VES, Detailed eng., Camp, Roads and plant site CPL</li> <li>Tailings Dam wall and earthworks will be complete by December 2018, providing sufficient water for construction, commissioning, and operations</li> <li>Extensive community consultation</li> <li>Granted Mining Licence, Env. Appr., Port export allocation</li> <li>Offtake agreements</li> <li>Project Financing; Origin Capital+Morgans+Hartleys</li> <li>Origin Capital have appointed DD team to act on behalf of prospective lenders. Detailed project review, site visit, graphite market analysis - well advanced.</li> </ul>
Balama Graphite Project Stage 1 50,000tpa, planning for subsequent expansion to	Produce 50-55,000tpa @ >96% TGC BMI Basket price FOB Moz >USD \$1100/t OPEX cost FOB Moz USD \$372/t SS CAPEX ~ USD \$50M Feasibility Study due Dec Qtr 2018	<ul> <li>Scoping Study (SS) Completed</li> <li>Feasibility Study Underway due for reporting Dec Qtr 2018</li> <li>Mining Licence Application and Environmental approvals process is due to commence in Dec Qtr 2018</li> </ul>

Status

- MOU with URBIX and work programme now well advanced on demonstrating viability of low cost, production of purified spherical graphite (PSG)

  Economic opportunity in the order of USD \$500-2,500 per tonne of PSG
- The Company's tenements are highly prospective for additional graphite resources. The Company has completed extensive infill, strike extension and exploration drilling during 2018. Opportunity to significantly increase run of mine grade, mine life and production while also lowering costs.

  Current Graphite resources contain 280,000 tonnes of V2O5. The vanadium
- entirely reports to the tailings and presents a commercial opportunity. 98% V2O5 current price USD \$18/lb
  Stage 1 Montepuez will be discharging >2Mlb of vanadium pa to TSF

- The Company has completed initial test work and is currently engaging with parties to earn either project or corporate equity as part of completing an initial scoping study
- The objective of the test work is to establish that a vanadium rich concentrate can be generated as a by product and sold at a profit.

Results due in September Quarter 2018

New resource estimates are also pending for Montepuez

• Results are due in September 2018

### Next Steps



- 1. Complete Montepuez project finance
- 2. Award remaining construction contracts
- 3. Urbix, Anode and other downstream test work
- 4. Resource and reserves, exploration update
- 5. Balama Feasibility Study Results
- 6. Start mining processing and exporting
- 7. Vanadium and other minerals exploration







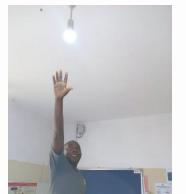














### **APPENDICES**

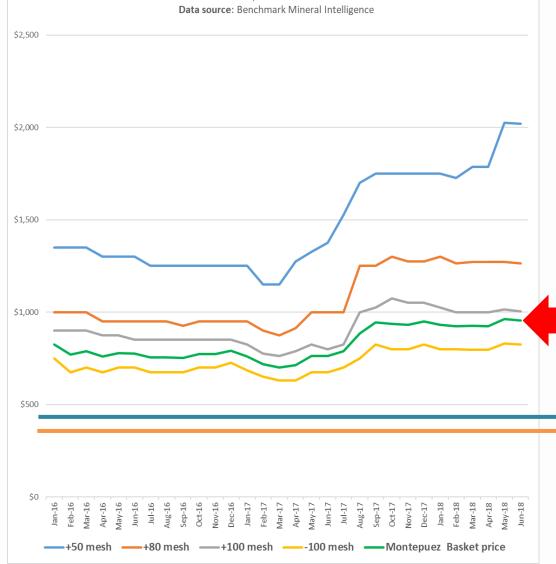


- BMI-Graphite Price Trend Jan 2016 to July 2018 Montepuez
- BMI-Graphite Price Trend Jan 2016 to July 2018 Balama Central
- CRU-Historical Vanadium Pricing
- Mineral Resources, Reserves, disclaimer, Competent person statements

### BMI - Montepuez Basket Price Jan16 - June18







### Graphite commodity prices have steadily improved since March/April 2017

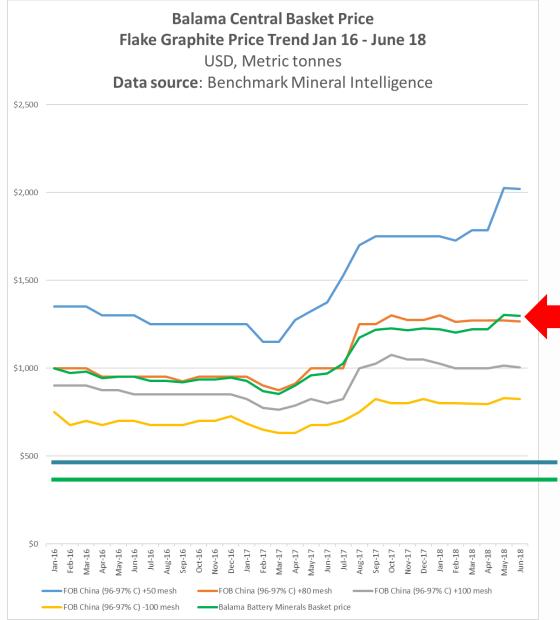
Montepuez: Battery Minerals - Flake Graphite Concentrate Sizing

Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	71.9%	97.0%
Medium	+100 Mesh	+150 -180	10.2%	96.0%
Large	+80 Mesh	+180 -300	13.5%	96.0%
Jumbo	+50 Mesh	+300	4.4%	96.0%

Battery Minerals (Montepuez) delivered US\$440 cost per tonne cif China Battery Minerals (Montepuez) Opex US\$337 OPEX cost per tonne FOB Pemba

### BMI - Balama Basket Price Jan16 to June18





#### Balama Central Graphite Project

- Higher Jumbo and Large flake product
- Higher basket price of circa US\$1,220/t

#### **Balama Central Battery Minerals - Flake Graphite Concentrate Sizing**

Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	37.0%	97.0%
Medium	+100 Mesh	+150 -180	9.0%	96.0%
Large	+80 Mesh	+180 -300	25.0%	96.0%
Jumbo	+50 Mesh	+300	29.0%	96.0%

Battery Minerals (Balama Central) delivered US\$470 cost per tonne cif China Battery Minerals (Balama Central) Opex US\$370 OPEX cost per tonne FOB Pemba

### Montepuez Ore Reserves and Mineral Resources



- Ore Reserve Estimate 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
- <u>Total Mineral Resource</u> July 2018 and January 2017 for Elephant and Buffalo deposits is 115.6Mt @ 7.51%
   TGC for 8.62Mt of graphite reported at a 2.5% TGC cut-off
- Two world class deposits provide optionality of product, blending opportunities and development options
- Flake size, creates opportunity for price premium Natural Flake products
- Chemical structure and easy liberation attributes (low impurities) offers unique opportunities
- The graphite resources remain open in every direction ensuring mine life opportunity beyond the currently scheduled 30 years

MONTEPUEZ GRAPHITE PROJECT - ORE RESERVE STATEMENT  @ 4% TGC cut-off - January 2017					
Ore Type	Classification	Ore Reserve	TGC	Contained Graphite	
		Mt	%	Mt	
Weathered	Proved	-	-	-	
Weathered	Probable	8	8.5	0.68	
Fresh	Proved	-	-	-	
riesii	Probable	33.5	8.8	2.96	
Total	Proved	-	-	-	
	Probable	41.4	8.8	3.64	

Note: See ASX Announcement dated entitled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' dated 15 February 2017 for full details.

### Montepuez Mineral Resource Statement



<u>Total Mineral Resource</u> July 2018 and January 2017 for Elephant and Buffalo Elephant deposits is **115.6Mt** @ **7.51% TGC for 8.62Mt** of graphite reported at a 2.5% TGC cut-off

ELEPHANT RESOURCE @ 2.5% TGC cut-off - July 2018				
Classification Type		Tonnes	TGC	Contained Graphite
		Mt	%	Mt
المحادمة معادما	Weathered	6.60	7.00	0.60
Indicated and Inferred	Unweathered	70.30	7.30	4.50
imerred	Total	76.90	7.30	5.62

BUFFALO RESOURCE  @ 2.5% TGC cut-off - December 2016					
Classification	Type	Tonnes	TGC	Contained Graphite	
		Mt	%	Mt	
Indianted and	Weathered	5.20	8.14	0.40	
Indicated and Inferred	Unweathered	33.50	7.90	2.60	
Interred	Total	38.70	7.93	3.00	

Note: See ASX Announcements dated 16 July 2018 and also 15 February 2017 entitled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' for full details and CP signoffs.<sup>1</sup>

<sup>1.</sup> See ASX announcements dated 16 July 2018 and also 15 February 2017 – Montepuez Ore Reserves & Mineral Resources. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement

### Balama Central Mineral Resource (1)



<u>Total Mineral Resource</u> for Balama Central is **32.9 million tonnes at 10.2 per cent TGC for 3.36Mt** of graphite reported at a 6.0% TGC cut-off and includes Indicated Resources of 26Mt @ 10.3% TGC for 2,733Kt of graphite reported at a 6.0% TGC cut-off

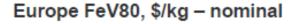
	BALAMA CENTRAL GRAPHITE PROJECT <sup>1</sup>				
March 2018 Mineral Resource Estimate (6% TGC Cut-off)					
Class	Tonnage TGC V2O5 Cont. Graphite Cont. V				Cont. V2O5
	Mt	%	%	Kt	Kt
Indicated	26.6	10.3	0.22	2,733	58.5
Inferred	6.3	9.9	0.19	630	11.9
Total	32.9	10.2	0.21	3,363	70.4

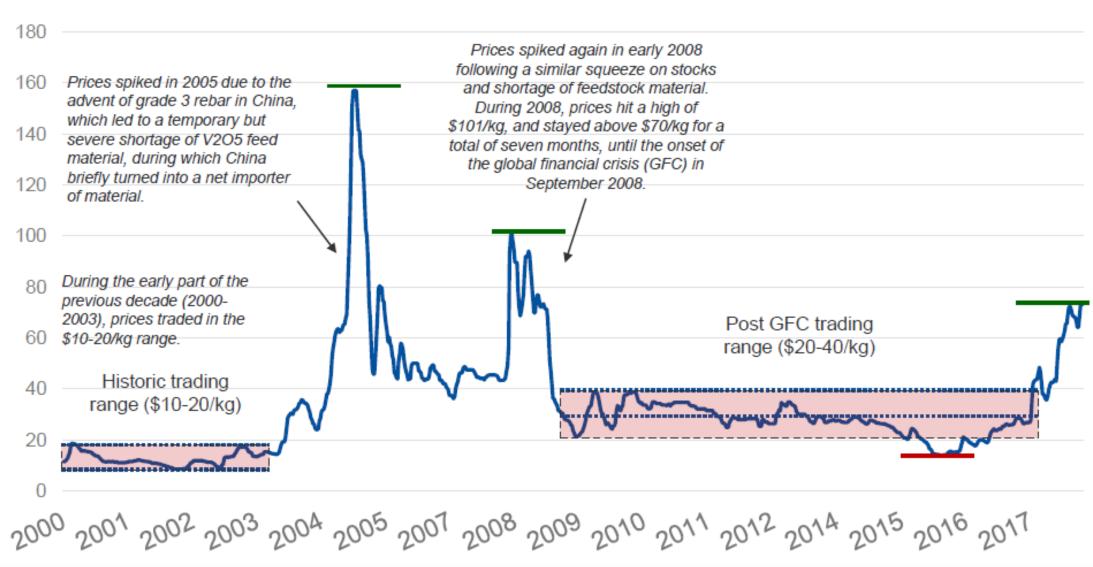
Note: See ASX Announcement on 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details.

<sup>1.</sup> See ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement

### Vanadium pricing last 20 years - CRU







### Disclaimer & Competent Persons Statement



#### **Forward Looking Statements**

Statements and material contained in this Presentation,
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**

- Battery Minerals Limited released the results of a DFS on its Montepuez Project on 15 February 2017 & its Value Engineering Study (VES) results for Montepuez on 18 October 2017. These releases are available on Battery Minerals' website & ASX.
- 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 Exploration Results, Ore Reserve and Mineral Resource estimations should be read in conjunction with the competent person statements included in the ASX announcements referenced in this presentation 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 Presentation that relates to Montepuez Mineral Resources and Ore Reserves is extracted from the ASX Announcements dated 16 July 2018 and also 15 February 2017 entitled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate and DFS and VES information is extracted from the ASX announcement entitled 'Lithium Ion Battery anode PFS and Montepuez Graphite DFS confirm robust economics' dated 15 February 2017 and VES results of 18 October 2017, both of which are available at Battery Minerals website in the ASX announcement page.
- See ASX announcements on the Balama Central Scoping Study dated 1 March 2018 and the Concept Study dated 26 October 2017 for details, Table 1 and Competent Person Statement
- Balama Central Preliminary metallurgical testwork: The information in this Presentation that relates to Metallurgy is based on and fairly represent information reviewed by Mr. Sean Richardson, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr. Richardson is an independent consultant. Mr. Richardson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken. Mr. Richardson consents to the inclusion in the Announcement of the matters based on his information in the form and context in which it appears.
- 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 ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details and Competent Persons Statement) 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 presentation that relates to Battery
  Minerals' Balama Central Mineral Resources is a compilation of
  previously published data for which Competent Persons consents
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- The information in this presentation that relates to Mineral Resources in the ASX announcement dated 29 March 2018 and entitled "Resources double at Balama Central graphite project in Mozambique" 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.

