

## CONCENTRATES CONFIRMED AS BENCHMARK AND HIGHLY SUITABLE FOR USE IN LITHIUM-ION BATTERIES

### HIGHLIGHTS

- Independent test work demonstrates Graphmada graphite concentrates as highly suitable for lithium-ion battery applications with a very high purity of 99.99 wt.% carbon achieved.
- All analyzed parameters including bulk density, tap density and surface area (BET) are similar to typical spherical graphite products in the market and meet leading battery anode manufacturer specifications.
- Results confirm Graphmada concentrates as the benchmark for saleable concentrates across all market segments and supports Bass' strategy to build an international industrial minerals business through growing Graphmada's current production to mid-tier production levels.

Company	Market Cap.	Tap Density (g/cm <sup>3</sup> )		D50 (micron)		Ratio D50/D10		BET (m <sup>2</sup> /g)		Yield Test (wt.%)	
Bass Metals	\$15m	0.94	✓	14.7	✓	2.6	✓	6.7	✓	47	✓
<b>Typical Range</b>		<b>&gt;0.9</b>		<b>10 - 25</b>		<b>2.6 - 2.8</b>		<b>3 - 8</b>		<b>&gt;30</b>	
Syrah Resources <sup>1</sup>	\$682m	0.98	✓	15.6	✓	1.7	✗	4.2	✓	40	✓
Kilbaran Resources <sup>2</sup>	\$40m	0.95	✓	14.8	✓	2.2	✗	7.8	✓	-	✗
Black Rock Mining <sup>3</sup>	\$27m	0.89	✗	14.1	✓	-	✗	6.4	✓	-	✗
Magnis Resources <sup>4</sup>	\$277m	0.92	✓	-	✗	-	✗	5.7	✓	70	✓
Battery Minerals <sup>5</sup>	\$32m	0.96	✓	19.7	✓	4.1	✗	7.1	✓	50	✓

Table 1: Spherical graphite test results (comparison).

<sup>1</sup> ASX Release "Syrah successfully produces Li-Ion battery grade spherical graphite" 20/4/14

<sup>2</sup> ASX Release "Kilbaran starts feasibility study on production of lithium-ion battery grade graphite" 27/9/16

<sup>3</sup> ASX Release "First spherical graphite tests deliver battery grade specifications" 22/9/16

<sup>4</sup> ASX Release "AGM Presentation" 21/10/16

<sup>5</sup> ASX Release "Battery anode PFS and Montepuez Graphite Project DFS" 15/2/17

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Bass Metals Limited (ASX: "BSM") (the "Company") is pleased to announce the results from an independent evaluation of its natural flake graphite for lithium-ion battery applications.

An independent German laboratory tested a bulk sample taken across a range of 2016 production sales stock from the Graphmada large flake graphite mine, Bass' flagship asset. The bulk sample was obtained from sales stock produced pre-refurbishment and optimization.

## TEST RESULTS

The test work utilized a low excess of acids to achieve a purity of 99.99 wt. % which exceeds the quality of typical battery grade SPG, which is specified with > 99.95 wt.%. Key parameters such as bulk density, tap density and surface area (BET) of Graphmada's spherical graphite is similar to typical spherical graphite products in the market.

Parameter	Result	Desired
Tap Density	0.94 g/cm <sup>3</sup>	>0.9 g/cm <sup>3</sup>
D50	14.7 micron	10 - 25 micron
Ratio D50/D10	2.6	2.6 - 2.8
BET	6.7 m <sup>2</sup> /g	3 - 8 m <sup>2</sup> /g
Yield Test	47 wt%	>30wt%
Silicon dioxide SiO <sub>2</sub>	27 ppm	<45 ppm
Aluminium oxide Al <sub>2</sub> O <sub>3</sub>	11 ppm	<15 ppm
Iron oxide Fe <sub>2</sub> O <sub>3</sub>	24 ppm	<35 ppm
Titanium dioxide TiO <sub>2</sub>	<10 ppm	<10 ppm
Potassium oxide K <sub>2</sub> O	<10 ppm	<10 ppm
Sodium oxide Na <sub>2</sub> O	<10 ppm	<10 ppm
Magnesium oxide MgO	<10 ppm	<10 ppm
Calcium oxide CaO	<10 ppm	<10 ppm
Phosphorous oxide P <sub>2</sub> O <sub>5</sub>	<10 ppm	<10 ppm
Barium oxide BaO	<10 ppm	<10 ppm
Lead oxide PbO	<10 ppm	<10 ppm
Zirconium oxide ZrO <sub>2</sub>	<10 ppm	<10 ppm
Manganese oxide MnO	<10 ppm	<10 ppm
Sulfur oxide SO <sub>3</sub>	<0.01 wt. %	<0.01 wt. %
Loss on ignition LOI	99.99 wt. %	>99.96% wt. %
Ash content	0.01 wt. %	<0.04 wt. %

Table 2: Graphmada spherical graphite test results.

Further optimization of the leaching procedure by variation of acid quantity, retention time, washing procedure and thermal processing steps are possible to optimize acid and energy consumption and final product qualities.

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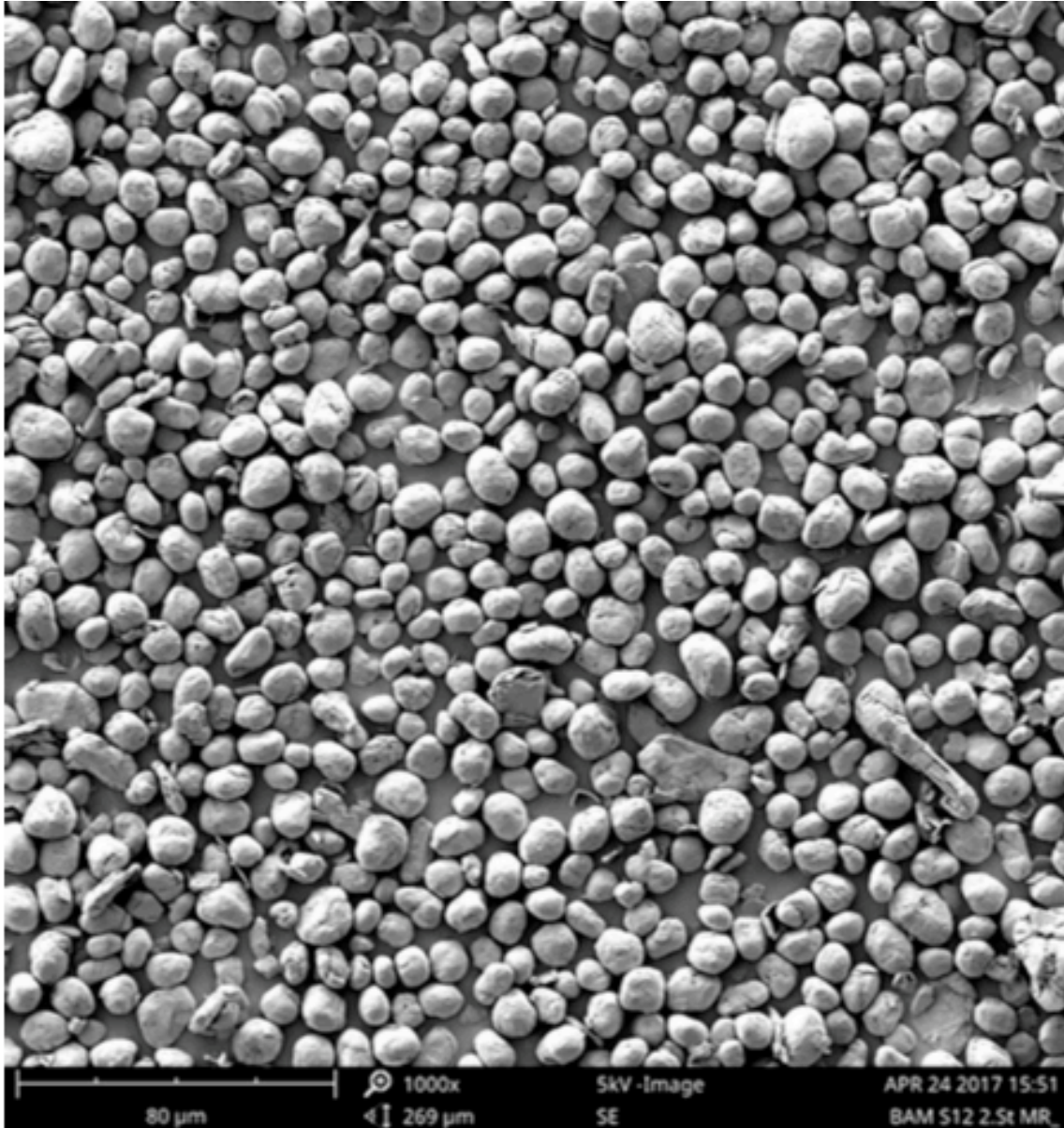


Figure 1: SEM micrograph of Graphmada spherical graphite.

## DOWNSTREAM PROCESSING

Downstream processing of graphite concentrates for battery applications sees a four-stage upgrade process take place. Firstly, the concentrates are micronized to achieve specific sizing and density, then spheritized for optimal packing shape, purified for quality and finally coated for performance.

Standard spherical graphite materials require an average particle size (D50) in the range 10 to 25 microns. As a first step in downstream processing and value-add, the flake graphite concentrate is micronized to a suitable feed flake size for subsequent

spheroidization. For micronization an air-classifying mill is used which consists of a high-speed rotor combined with an air classifier. During micronization graphite flakes are impacted and collide with each other, reducing their size to the target value.

Once micronized, the spheroidization process converts the graphite flakes into a spherical shape: Shaped Graphite Flakes (SPG). For different battery applications different median particle sizes are required. The spherical shape is achieved using a combined mechanical spheroidization and classification unit. The spheroidization process is performed in the treatment zone while the classification process separates the SPG product from generated fines.

The SPG product is then purified, as battery grade graphite requires high purity (> 99.95%). The standard purification process involves acid leaching. The SPG is treated with a mixture of different combinations of acids removing oxides and silicates present. The purified graphite is then separated by filtration, washed with deionized water and dried to produce the final upgraded spherical graphite product. The final stage of downstream processing involves coating to optimize performance, as feedstock for different types and brands of anode material, which is then on sold to anode or battery manufacturers.

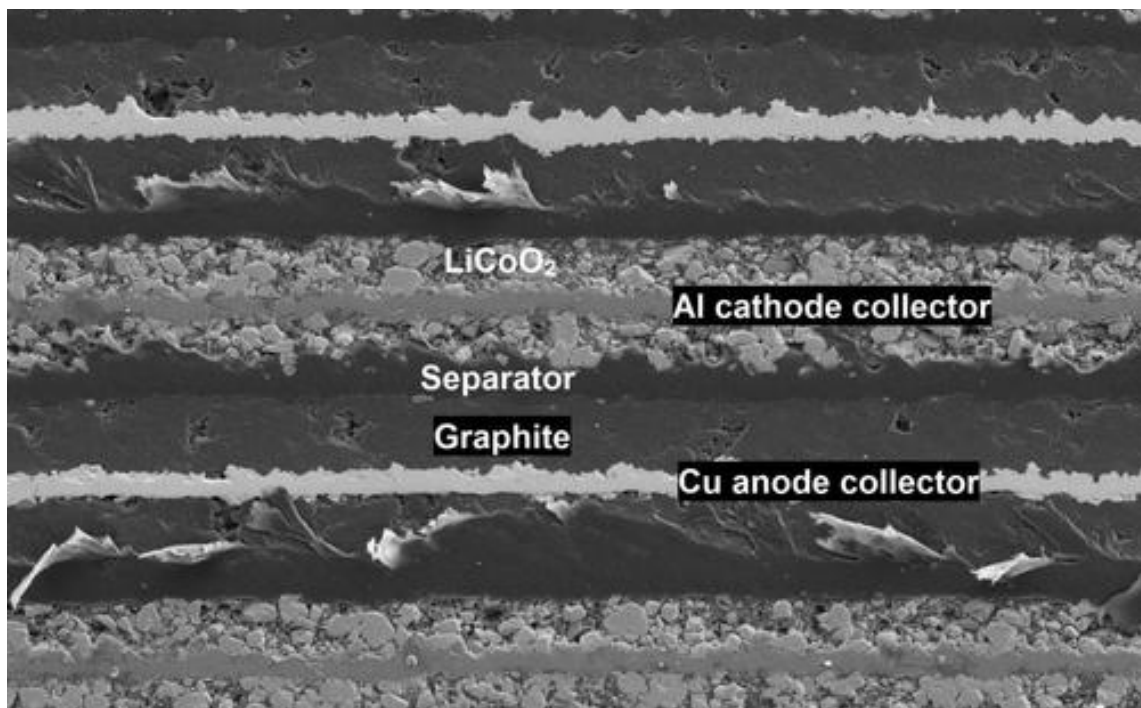


Figure 2: SEM cross section iPhone 6 battery.

BASS METALS CEO, MR TIM MCMANUS:

“With optimization and refurbishment activities delivering production of high value concentrates in 2017, these results see Bass become the only industrial minerals company on the ASX capable of entering all graphite market segments at premium pricing levels. This not only significantly reduces risk to our shareholders, it also means we can optimize our returns on their behalf.

We remain very aware of the potential for the battery market to rapidly expand with demand for high quality concentrates and believe that the quality of our production across all market segments will see Bass recognized as the benchmark for the supply of high quality graphite concentrates.

From our 100% owned Graphmada Mine we’ll see an increased production profile in 2017 to a 6000tpa run-rate of high quality concentrates, moving rapidly towards production of 20,000 tpa in 2019, delivered at a lower capital intensity and with significant economies of scale savings. This strategy will see Bass become a mid-tier producer of industrial mineral concentrates at a very low risk of shareholders wealth.”

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## ABOUT THE GRAPHMADA JUMBO FLAKE GRAPHITE MINE

Bass Metals Ltd. is one of only three publicly listed graphite producers in the world. The company 100% owns and operates the Graphmada large flake graphite mine, Bass' flagship project, located in eastern Madagascar. Madagascar has been a recognized producer and exporter of premium graphite since 1907 and sets the world standard for product quality and flake size.



The Graphmada mine has 40-year mining permits in place, containing four premium quality, large flake, graphite deposits hosted in weathered graphitic gneiss, a soft, easily minable rock that incurs low mining costs. With all associated mining infrastructure and logistics in place, the mine currently produces and sells a range of graphite concentrates into multiple market segments, to customers in India, the United States and Europe.

Generating revenue through ongoing lowest quartile cost production, the mine is currently being optimised by an experienced management team to 6000 tonnes per annum with improved final graphite concentrate grades, in order to grow cash margins.

Graphmada also has significant potential for low capital intensity expansion. Bass plans to invest capital to expand production to greater than 20,000 tonnes per annum of graphite concentrate sales by 2019.

The Company has also made the strategic decision, in parallel with the optimisation at Graphmada, to actively explore and develop deposits in the immediate proximity to the mine, with a view to materially expanding existing resource inventories.

The Loharano deposit has provided the bulk of the feed to the Graphmada processing plant and has total JORC compliant Indicated and Inferred resources of 5.7Mt @ 4.1% Grade with a 2% cut-off<sup>6</sup>. This mineralization is known to go to depth with increasing grade, and is open in all directions.

With the Company having a strong community engagement program and being well down the path in achieving its optimisation plans and growing its resource inventory, the team at Bass is confident of its plans for expansion and its future value creation for shareholders.

<sup>6</sup> These estimates were prepared and first disclosed by Stratmin Global Resource PLC under the JORC Code 2004. The estimates have not been updated to JORC Code 2012 on the basis that the information has not materially changed since it was last reported. Reference is made to the Company's announcement of 2 September 2015, which provides further detail regarding this information.

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### COMPETENT PERSON STATEMENT

The information in this document that relates to Exploration Results is based on information compiled by Tim McManus, a Competent Person who is a member of the Australasian Institute of Mining and Metallurgy and a full-time employee of the Company.

Tim McManus 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 Results, Mineral Resources and Ore Reserves.

Tim McManus consents to the inclusion of the information in this document in the form and context in which it appears.