

26 Oct 2017

Concept study highlights outstanding potential of Balama Graphite Project

Strong results from preliminary testwork prompt Battery Minerals to start Balama Definitive Feasibility Study immediately

HIGHLIGHTS

- Concept study demonstrates the outstanding potential of Balama Graphite Project, which is Battery Minerals' second graphite project in Mozambique
- 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 flake²
- In light of these strong results, Battery Minerals will start a DFS immediately targeting completion by mid next year
- Environmental approvals process and diamond drilling to start this quarter
- Balama's Mineral Resource stands at 16.3Mt at 10.4% TGC for 1.7Mt of contained graphite¹
- Exploration target indicates significant exploration upside remains ¹
- See 21 March 2016 ASX announcement entitled "Maiden JORC Graphite Resource at Balama Central Project Mozambique" for full details
- 2. Benchmark Mineral Intelligence report price in September for Balama Central Basket fake size distribution is US\$1217/t

This is a summary of key findings of a concept study undertaken on the company's Balama Central Graphite Project in Mozambique. The study is not to be considered as conclusive economic evaluation of the project. The company is satisfied that the project is sufficiently prospective to warrant detailed engineering studies, further test work, infill drilling and comprehensive environmental impact assessment as part of a definitive feasibility with a target completion date of mid-2018.



Battery Minerals (ASX Code: BAT) is pleased to advise that a Concept Study, including preliminary metallurgical testwork, has highlighted the outstanding potential of its Balama Central Graphite Project in Mozambique (Balama).

Balama is Battery Minerals' second graphite project in Mozambique. The Company's flagship project is Montepuez, where it has recently completed a value engineering study which found the project would deliver strong financial returns (see ASX release dated October 18, 2017).

The Balama concept study found the Project could produce higher-value very coarse flake size, with over 50% classed as large and jumbo graphite flake grading @ 97% total graphitic carbon (TGC).

In light of these strong results, Battery Minerals will now undertake a Definitive Feasibility Study which it aims to complete by the middle of next year.

Battery Minerals Executive Chairman David Flanagan said the results provided more strong evidence of the Company's potential to become a significant graphite supplier to the lithium battery industry.

"It is now clear that Balama offers substantial growth potential for Battery Minerals' shareholders," Mr. Flanagan said.

"These results follow the findings of the value engineering study completed on our flagship Montepuez Graphite Project earlier this month.

"We are now in the enviable position of having two emerging graphite projects at a time when demand for graphite is forecast to soar on the back of demand from lithium battery manufacturers.

"This is against the backdrop of a market capitalisation of less than \$30 million and a host of news flow to come from drilling, project development, feasibility studies, offtake discussions and funding agreements."

Background Information on Balama Central Mineral Resource

On 21 March 2016 Battery Minerals announced a Mineral Resource at Balama Central Project in Mozambique of 16.3Mt at 10.4% TGC for 1.7Mt of contained graphite made up of:

- Indicated Mineral Resource: 8.9Mt at 9.3% TGC
- Inferred Mineral Resource: 7.4Mt at 11.8% TGC

Battery Minerals also advised the market in the same announcement that it had set an Exploration Target at the Balama Central Project of 43Mt to 78Mt at 9% to 13% TGC, highlighting the Project's upside potential (see ASX announcement dated 21 March 2016 for details, competent persons statement and qualifications to the Exploration Target).



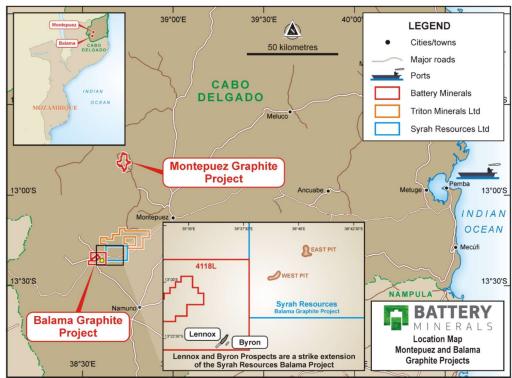


Figure 1. Location map of the Balama Central license (4118L) with the Lennox Prospect shown relative to the Montepuez Project. Battery Minerals believe the Lennox Prospect is a strike extension of the mineralisation that runs through the Syrah Resources Balama Project.

Key features of the Mineral Resource announced on 21 March 2016:

- Mineral Resource includes a high grade (>18% TGC) zone from surface
- Over 50% by volume of Mineral Resource is large or jumbo flake size
- Positive, very friable/soft nature of material

Balama Central Graphite Project March 2016 Mineral Resource Estimate (6% TGC Cut-off)

Class	Class		V ₂ O ₅	Cont. Graphite	Cont. V ₂ O ₅
Class	Mt	%	%	kt	kt
Indicated	8.9	9.3	0.16	836	14
Inferred	7.3	11.8	0.27	863	20
Total	16.3	10.4	0.21	1,699	34

Table 1. Balama Central Graphite Project Resource Estimate (See 21 March 2016 ASX announcement entitled "Maiden JORC Graphite Resource at Balama Central Project - Mozambique" for full details)



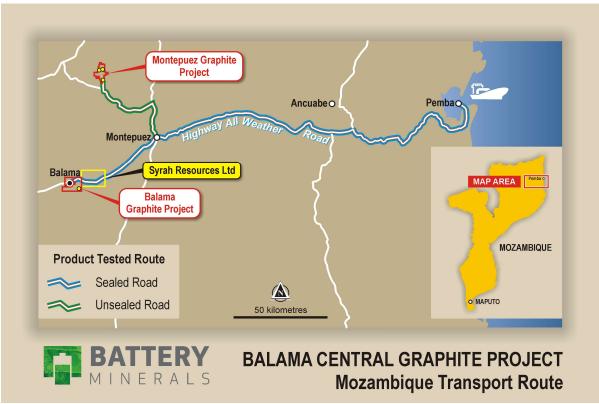


Figure 2. Infrastructure map illustrating proximity to the nearest deep water ports

Exceptional flake size

Further to the JORC compliant Mineral Resource, Battery Minerals also conducted additional flake size assessment using ALS Perth to process a 500 kilogram sample. The test work indicated a significant 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 work by MLA and Actlabs Geometallurgy of Ontario Canada with 30 samples submitted from the Lennox Prospect located within the Balama Central License.

Product size and specification

Flake Graphite Concentrate Sizing

riako Grapinto Gonochitato Gizing				
Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	37%	97%
Medium	+100 Mesh	+150 -180	9%	97%
Large	+80 Mesh	+180 -300	25%	96%
Jumbo	+50 Mesh	+300	29%	96%

Table 2 Balama 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.

Qualifications on the Balama Concept Study

The following additional work will be done by Battery Minerals to provide additional confidence and add value to the development path for Balama Central Graphite Project;

- Resource Development
 - The primary objective is to prove up additional high-grade material, which will have a direct impact on improving the returns on any operation. The secondary objective will be to increase the ore resource.
- 2. Metallurgical Testwork
 - Further metallurgical testwork will be completed to determine optimal conditions to maximise recovery and grade respectively
- 3. Definitive Feasibility Study
 - On completion of resource development and metallurgical testwork, a feasibility study will be completed to finalise to a more accurate level of confidence the development and operating costs of the Balama Central resource. The feasibility study will be done to an appropriate level of accuracy to support a reserve determination and mining license application.
- 4. Community
 - A high-level study will be undertaken to determine the process, impact and cost of mining on the affected local communities.
- 5. Environmental Approval process
 - Battery Minerals plans to commence the environmental approvals process in the December 2017 Quarter.

Mine layout

Battery Minerals expects that the Balama Central Concept Study mine design is expected to be similar to the Montepuez project design (see ASX Release dated 18th October 2017) which was designed to minimise environmental impact while maintaining efficient capital expenditure and ongoing life-of-mine operating costs.

Two programs of preliminary metallurgical testwork on Balama material have been completed by ALS Laboratories in Perth. The first program was a bench-scale sighter flotation test program, while the second was a pilot plant test program.

The results from the pilot plant test program were used as the basis for the concept study metallurgical parameters. The pilot plant test program processed a 500kg sample of Balama near-surface typical weathered material.



The pilot plant flowsheet consisted of a comminution section, which milled the material to a P98 of 850-micron. A flotation section which included a rougher float cell, cleaner 1 float cell, with tails recycled back to the rougher cell, regrind mill 1, cleaner float cell 2, regrind mill 2 and a cleaner float cell 3. The results from the mini bulk test are given in tables 3 and 4.

Product	Weight	Yield	Grade	Recovery
	kg	%	%	%
Cleaner 3 Con	28.83	9.61	96.88	93.8
Cleaner 3 Tail	1.44	0.48	9.12	0.44
Cleaner 2 Tail	5.21	1.74	1.95	0.34
Cleaner 1 Tail	19.09	6.36	2.7	1.73
Rougher Tail	245.41	81.81	0.36	2.97
Feed to cell	300.00		10.0	

Table 3 Mini pilot plant test results

Size	Mass	Passing	LOI 425/1000
(mm)	(%)	(%)	(%)
0.300	29.0	71.0	96.35
0.212	19.5	51.5	96.49
0.180	5.41	46.1	97.52
0.150	9.12	37.0	98.37
0.106	10.2	26.7	99.05
0.075	7.76	19.0	99.07
0.038	8.42	10.6	98.60
-0.038	10.6		92.33
Calc'd Head	100.0		96.88

Table 4. Size by assay and particle size distribution

The results of the pilot plant test indicate that the Balama raw graphite ore upgrades to an average basket product grade of 96.9%TGC, with an overall recovery of 93%, which has 63% of the product flake greater than 150 microns. These key outputs of flake size distribution and recovery were consistently applied across the production scenario developed for the concept study.

Items	
+300 microns flake	29%
-300 +150 microns flake	34%
-150 microns flake	27%
Graphite Recovery	93%

Table 5. Flake size split and recovery



Battery Minerals expects that the concept Balama Central process plant will comprise of the following:

- ROM pad, designated stockpile areas and ability to blend ore on pad.
- Primary jaw crusher and crushed ore stockpile (COS).
- Primary closed-circuit rod mill.
- Rougher flotation.
- Concentrate regrinding and concentrate cleaning.
- Concentrate filtration.
- Concentrate drying, screening, and bagging.
- Tails thickening and disposal.
- Water and Air services.
- Reagents.

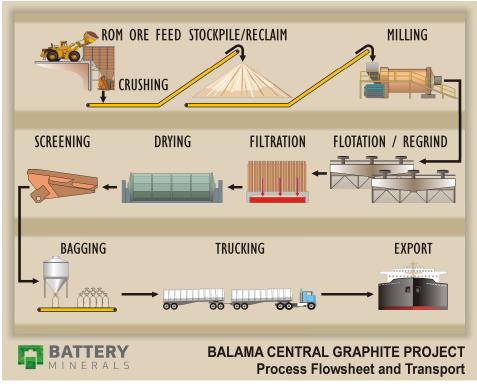


Figure 3: Diagrammatic flow explaining the potential process flowsheet for the Balama Central graphite project including the likely transport method.

The processed tailings will be deposited in a Tailings Storage Facility (TSF) and process water is expected to be recycled back into the processing plant for re-use.



Investor Enquiries:

Battery Minerals Limited

David Flanagan, Executive Chairman	Tony Walsh, Company Secretary
Tel: +61 8 6148 1000	Tel: +61 408 289 476

Media Enquiries:

Read Corporate Tel: (+61 8) 9388-1474

Paul Armstrong Email: paul@readcorporate.com.au

Important Notice

This ASX Announcement does not constitute an offer to acquire or sell or a solicitation of an offer to sell or purchase any securities in any jurisdiction. In particular, this ASX Announcement does not constitute an offer, solicitation or sale to any U.S. person or in the United States or any state or jurisdiction in which such an offer, tender offer, solicitation or sale would be unlawful. The securities referred to herein have not been and will not be registered under the United States Securities Act of 1933, as amended (the "Securities Act"), and neither such securities nor any interest or participation therein may not be offered, or sold, pledged or otherwise transferred, directly or indirectly, in the United States or to any U.S. person absent registration or an available exemption from, or a transaction not subject to, registration under the United States Securities Act of 1933.

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

Preliminary metallurgical testwork: The information in this Announcement 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.

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 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 report that relates to Battery Minerals' Mineral Resources 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 announcement that relates to Mineral Resources 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.

Notes to this announcement:

Mineral Resources quoted in this announcement are based on Mineral Resources included in Battery Minerals' ASX release dated 21 March 2016 - Maiden JORC Graphite Resource at Balama Central Project - Mozambique) prepared by a competent person in accordance with the requirements in Appendix 5A (JORC Code).



Appendix 1 - Mineral Resources announced on 21 March 2016 (see 21 March 2016 ASX announcement entitled "Maiden JORC Graphite Resource at Balama Central Project - Mozambique" for full details)

Balama Graphite Project March 2016 Mineral Resource Estimate (6% TGC Cut-off)

	Indicated Mineral Resource				
Туре	Tonnage	TGC	V ₂ O ₅	Cont. Graphite	Cont. V ₂ O ₅
	Mt	%		kt	kt
Weathered	2.1	9.9	0.17	205	4
Primary	6.9	9.2	0.15	631	11
Total	8.9	9.3	0.16	836	14

	Inferred Mineral Resource				
Туре	Tonnage	TGC	V ₂ O ₅	Cont. Graphite	Cont. V ₂ O ₅
350.50	Mt	%	%	kt	kt
Weathered	2.0	12.2	0.27	244	5
Primary	5.3	11.7	0.28	619	15
Total	7.3	11.8	0.27	863	20

	Total Mineral Resource				
Туре	Tonnage Mt	TGC %	V ₂ O ₅	Cont. Graphite kt	Cont. V ₂ O ₅
Weathered	4.1	11.0	0.22	449	9
Primary	12.2	10.3	0.21	1,250	25
Total	16.3	10.4	0.21	1,699	34

March 2016 Mineral Resource Estimate (6% TGC Cut-off) Notes:

Note:

- 1. Totals may differ due to rounding, Mineral Resources reported on a dry in-situ basis.
- 2. Flake sizes for the Mineral Resource are tabulated in Tables 2 to 4 below.
- 3. The Statement of Estimates of Mineral Resources has been compiled under the supervision of Mr. Robert Dennis who is a full-time employee of RPM and a Member of the AusIMM and AIG. Mr. Dennis has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he has undertaken to qualify as a Competent Person as defined in the JORC Code (2012).
- 4. All Mineral Resources figures reported in the table above represent estimates at 14 March 2016. Mineral Resource estimates are not precise calculations, being dependent on the interpretation of limited information on the location, shape and continuity of the occurrence and on the available sampling results. The totals contained in the above table have been rounded to reflect the relative uncertainty of the estimate. Rounding may cause some computational discrepancies.
- 5. Mineral Resources are reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The Joint Ore Reserves Committee Code JORC 2012 Ed).
- 6. Reporting cut-off grade selected based on other known economically viable deposits around the world.
- 7. TGC = total graphitic carbon.



Appendix 2 - Background to JORC Exploration Target announced on 21 March 2016 (see 21 March 2016 ASX announcement entitled "Maiden JORC Graphite Resource at Balama Central Project - Mozambique" for full details)

In addition to the Mineral Resource, an Exploration Target was calculated based on the potential to expand the wireframes from the Mineral Resource. The potential quantity and grade of the Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Balama Exploration Target is summarised in the tables below.

Balama Central Graphite Project Exploration Target

		<u>. </u>	
Domain	Tonnage Range Mt	Grade Range TGC %	Cont. Graphite Range Mt
High Grade	17 to 31	13 to 19	2.2 to 5.9
Medium Grade	26 to 47	6 to 9	1.6 to 4.2
Total	43 to 78	9 to 13	3.8 to 10.1

Balama Central Exploration Target Flake Size Distribution Range

		<u> </u>
Classification	Sieve Size (µm)	% in Interval Range
Jumbo	>300	25 to 36
Large	180-300	15 to 21
Medium	150-180	4 to 7
Fine	75-150	14 to 19
Very Fine	<75	20 to 27

Tonnage ranges for the Balama Project surrounding area was calculated based on the potential to expand the wireframes from the Balama Mineral Resource, where mineralisation was not closed by drilling; and supported by geological mapping and VTEM geophysical surveys. VTEM anomalism occurs on at least two parallel trends to the Mineral Resource, as well as extensions to the known Mineral Resource. Volumes for the Exploration Target were based on this VTEM anomalism (minus the existing Mineral Resource). Down-dip extent approximations were based on observations from drilling within the Mineral Resource area, with upside cases based on the knowledge that all mineralisation within the Mineral Resource is open at depth.

Grade ranges and flake size distribution ranges for the Balama deposit surrounding area was calculated based on grades and flake sizes from the Balama Mineral Resource.

In March 2016 RPM considered the Exploration Target valid because Battery Minerals subject to market conditions, intended to undertake a targeted drilling program over the next two years to define the mineralisation extents on a drill spacing of 400m (along strike) by 50m (across strike) for approximately 2,000 m of drilling.



Appendix 3: JORC TABLE 1

Section 1 Sampling Techniques and Data

Note: This JORC Table 1 has been prepared exclusively for the Preliminary Metallurgical Testwork for the Balama Central project included in this report.

Criteria	Explanation	
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	The sample was extracted from pits that were excavated manually by hand Top soil and overburden was removed prior to sampling Representative ore was extracted by shovel and bagged at the site Representative ore was identified by the company geologist Pit measurement was used to define the extraction area and GPS co-ordinates were recorded.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	Geological supervision ensured pit dimensions were adhered during excavation and that a representative sample was collected and bagged Excavation was completed by hand with hand tools to ensure maximum sample recovery and pit clean out
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Ore lithology of the sample was identified and logged by the company geologist Each sample was recorded and labelled, and each bag was logged and weighed prior to export



Criteria	Explanation	
Quality of assay data and laboratory tests	 Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) 	ALS Metallurgy Laboratory in Perth, Australia were contracted to manage the sample preparation and metallurgical testwork process ALS standard QA procedures were used for the processing and assay analysis of the samples
Location of data points	 and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic 	Location of the sample extraction pit defined by X and Y co-ordinates, elevation and located on the site map and geological map
Sample security	control. • The measures taken to ensure sample security.	Sample bags were weighed and sealed on site prior to dispatch Bag weights were confirmed by the ALS Laboratory on receipt and shipping weigh bills
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	None required
	, <u>, , , , , , , , , , , , , , , , , , </u>	
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be	 500kg sample processed through the ALS pilot plant system to determine floatation factors, recovery and grade of flake Flake product assessed by analysis for grade, particle size distribution and size distribution by assay to provide input parameters to the metallurgical flowsheet



	way a whale with a province patient of the	decime and maderation
	reported with an explanation of the basis of the metallurgical assumptions made.	design and production parameters
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	 Further environmental work on waste products will be completed during the next phase of the project development plan No AMD studies have been completed
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	 Bulk density assessments are not required for metallurgical test work. No bulk density measurements were performed as the information was not required for the metallurgical test work

Criteria	Explanation	
Site visits	 Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	No site visits were taken by the competent person.
Metallurgical factors or assumptions	 The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the 	The metallurgical process is a standard process for graphite flotation The technology is well tested and used extensively in the industry Material tested is representative of the weathered oxidized graphite ore in the resource.



Criteria	Explanation	
	corresponding metallurgical recovery factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Further testwork is required to validate other lithological performance