



SYRAH RESOURCES

**Macquarie
Australia Conference
4 - 6 May 2016**

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Our vision and values



Syrah's vision is to be the **leading supplier** of **superior quality graphite products**, working closely with our customers and supply chain to innovate and bring **enhanced value** to **industrial** and **emerging technology markets** globally.

Syrah is committed to:

- **WORKING SAFELY** at all times
- **PARTNERING WITH STAKEHOLDERS** for community and environmental sustainability
- **INTEGRITY** and **FAIRNESS** in all our business dealings
- Being **ACCOUNTABLE** for all our decisions and actions
- **SETTING GOALS** and supporting people to achieve them

We will work as a team and act as owners.



Investment highlights



**LOW CAPITAL
INVESTMENT
AND
OPERATING COSTS**
OVER THE LIFE OF THE MINE



OVER
350K TPA
GRAPHITE
CONCENTRATE
PRODUCTION
OVER THE FIRST
10 YEARS



OVER
40 YEARS
OF MINE LIFE WITH
**FURTHER
GROWTH
OPPORTUNITIES**



**BALAMA PROJECT
DEVELOPMENT
ACTIVITIES
SIGNIFICANTLY
PROGRESSED**



**FIRST BALAMA
SPHERICAL
GRAPHITE
OFFTAKE
FINALISED**



**BALAMA
SPHERICAL
GRAPHITE
QUALIFIED BY
3 MAJOR BATTERY
PRODUCERS**



**SPHERICAL
GRAPHITE
ENGINEERING
STUDY
PROGRESSING**

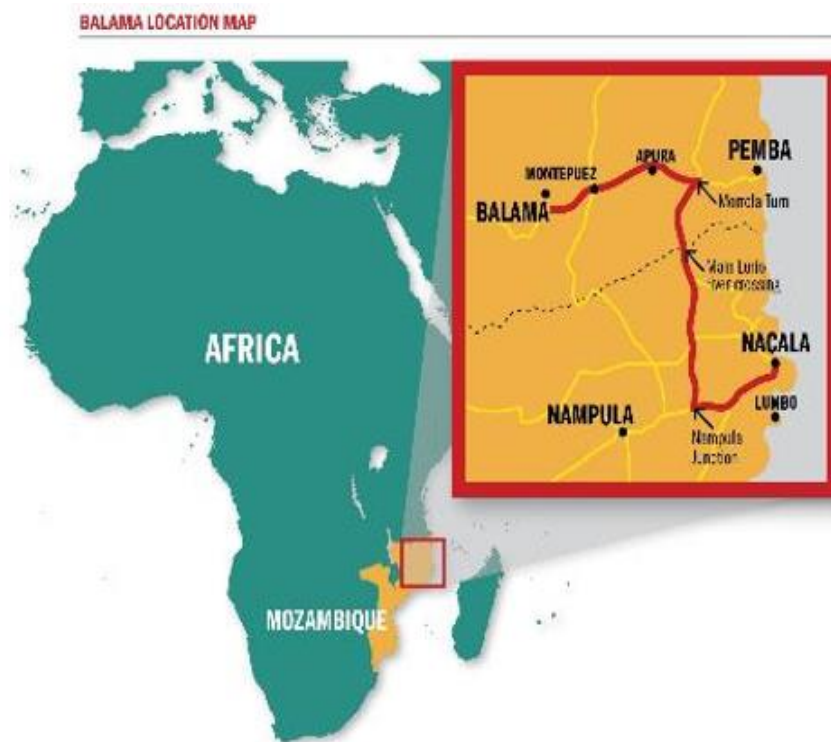


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Building the world's premier graphite company



- Feasibility Study confirms the **world class** potential of the **Balama Project**
- **Low cost** producer of superior quality graphite products
- Targeting “traditional” **industrial** graphite markets and emerging **technology** markets
- **Development** activities significantly underway
- Production **ramp up** in 2017



A man wearing a white hard hat with 'CLEAN' written on it, safety glasses, and an orange high-visibility vest over a light-colored button-down shirt is crouching outdoors. He is holding a small rock sample in his hands and looking at it intently. The background shows green foliage and a blue sky with white clouds. The text 'Corporate overview' is overlaid in white on the left side of the image.

Corporate overview



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Capital Structure



Key details

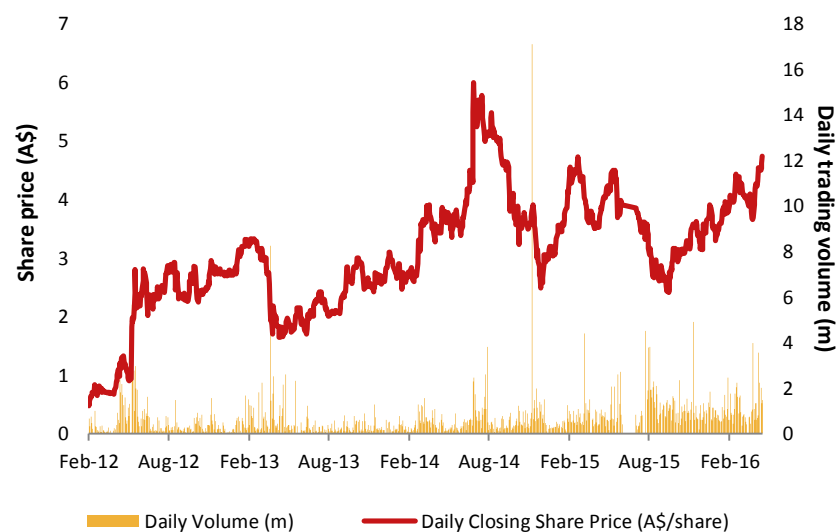
Shares on issue (as at 31 March 2016)	231.3m
Options on issue (as at 31 March 2016)	7.0m
Undiuted market capitalisation (Share price of A\$4.73 as at 29 April 2016)	A\$1.094.0m
Cash as at 31 March 2016	A\$166.2m
Debt as at 31 March 2016	Nil
Enterprise value	A\$927.8m

Source: Company filings, IRESS

Research coverage

- Credit Suisse
- Macquarie Bank
- Deutsche Bank
- Canaccord Genuity

Share price and volume



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Balama Project



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Feasibility Study overview



- **40+ year** mine life, simple **open-pit** mining
- Head grade of **~20% TGC**⁽¹⁾
- Capital cost estimate of **US\$144 million**⁽²⁾
- Average production of **over 350ktpa**⁽¹⁾
- Average life of mine operating costs of **US\$286/t FOB**⁽³⁾

(1) Average over the first 10 years of operations.

(2) Inclusive of 10% contingency.

(3) Excluding royalties and corporate taxes. FOB Port of Nacala.



Reserves and Resources



- JORC Code (2012) Compliant **Reserves** of **81.4Mt** at **16% TGC** for **13.2Mt** of contained graphite⁽¹⁾
- Reserves supports **over 40 years** of operations at estimated full production rates
- **World's largest** flake graphite reserve

(1) Refer Appendices for details of the Company's JORC Compliant Reserves and Resources and Competent Person Statements



Timeline to production



Activity	Q2 2016			Q3 2016			Q4 2016			Q1 2017		
BALAMA PROJECT												
Detailed design												
Farmland relocation and land clearing												
Civil works												
Process plant construction												
Power generation												
Tailings dam												
Water supply												
Mine development												
Production ramp up												



Development activities significantly progressed



- **Detailed engineering** and **design** is well advanced
- **Steelwork** and **plate work** fabrication is well underway with **deliveries** commencing to site during **Q2 2016**
- **Manufacture** of **principal mechanical equipment** continues and will be ready for **delivery** to site during **Q2** and **Q3 2016**
- **Concrete works** have commenced in the key areas of the **crushing facility** and **primary mill foundations** in preparation for the commencement of construction
- **Bitumising** of the **7km access road** is currently underway and is expected to be **completed** in **Q2 2016**
- Tender submissions for **Structural, Mechanical** and **Piping (SMP)** construction work have been submitted and are currently being reviewed
- Key **construction** and **operational staff** being progressively **recruited** with a number of positions being awarded to **highly qualified Mozambican** nationals



Access road construction



Completed section of the access road



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Concrete works



Balama crushing facility foundations (left) and ore bin back wall (right)



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Process water dam

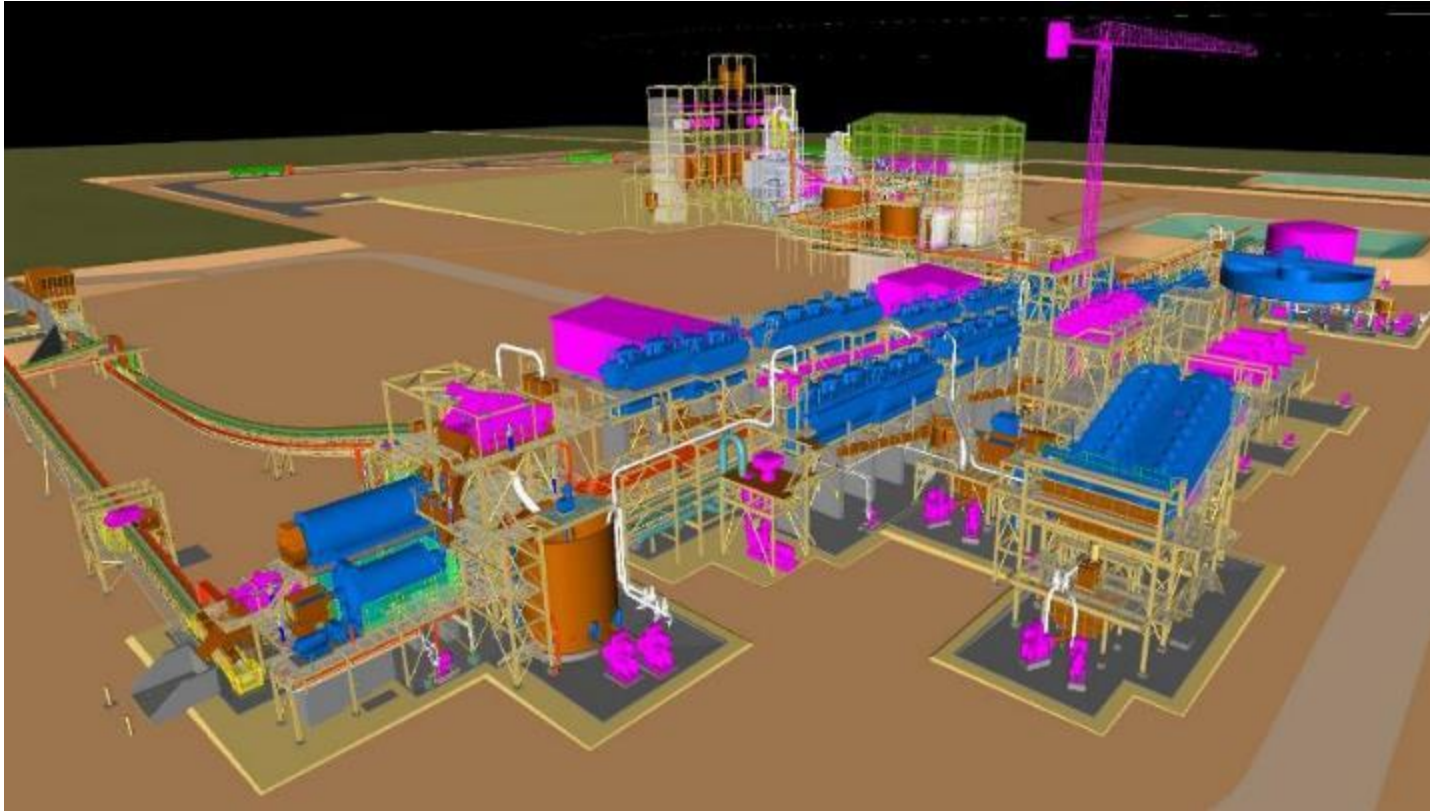


Process water dam (right) and thickener footings (left)



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3D Model – Primary Milling Circuit



3D Model – Balama Primary Milling Circuit



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Equipment being manufactured



Clockwise from top left: Crushing plant, mill, ore scrubber and thickener in various stages of manufacture



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A low-angle photograph of two Black men in industrial workwear. They are wearing tan work shirts with reflective green and yellow stripes, white hard hats, and safety glasses. They are holding a large, dark, cylindrical pipe or pipe section high above their heads with both hands. The background is a bright blue sky with scattered white clouds. The ground appears to be a dark, muddy or sandy surface.

Product marketing and offtake



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Marketing strategy and product mix



- **Partnerships** with major **end users** or key regional **commodity traders**
- **Technology** markets (lithium ion battery applications) require **-100 mesh** graphite
- **General Manager – Sales & Marketing** Antonio Assis appointed with over 28 years of experience in the graphite and other industrial sectors

Balama Profile				Applications
Mesh Size	µm	Average Size Distribution (%) ⁽¹⁾	Expected Production (Kta) ⁽²⁾	
+50	>300	8.5%	30	Industrial uses (e.g. Steelmaking, iron castings, foundries, automotive parts, lubricants etc.)
+80	<300 to >180	12.0%	43	
+100	<180 to >150	11.5%	41	
-100	<150	68.0%	241	Spherical graphite (i.e. lithium ion batteries) Recarburiser products

(1) Average estimated size distribution over the LOM based on Snowden Feasibility Study. Refer to “Balama Feasibility Study and Corporate Presentation” as announced to ASX on 29 May 2015 for relevant assumptions and qualifications to the conclusions of this study.

(2) Average estimated production over the first 10 years of the project based on Snowden Feasibility Study. Refer to “Balama Feasibility Study and Corporate Presentation” as announced to ASX on 29 May 2015 for relevant assumptions and qualifications to the conclusions of this study.



Offtake agreements



Flake graphite and recarburiser products

- **Offtake agreement** with **Chalieco** for 80ktpa of flake graphite over 3 years
- **Offtake agreement** with **Marubeni** for 20ktpa of flake graphite over 3 years
- **Statement of Sales Intent** with a **major global refractory producer** for 15ktpa of flake graphite
- **Statement of Sales Intent** with **Hiller Carbon** for 25ktpa to 35ktpa of natural graphite recarburisers
- **MOU** with **Asmet** for offtake of graphite fines for recarburisers

Spherical graphite

- **Product sales and marketing agreements** with **Morgan Hairong** for 9ktpa of spherical graphite over 3 years
- **MOU** with **Marubeni** to secure spherical graphite **offtake agreements** with anode and battery producers by **30 June 2016**
- A **major global battery material manufacturer** has advised that they have **qualified Balama spherical graphite** for its **automotive customers' requirements**
- **Advanced discussions** with major anode and battery producers for spherical graphite offtake agreements

Proposed Spherical Graphite Project



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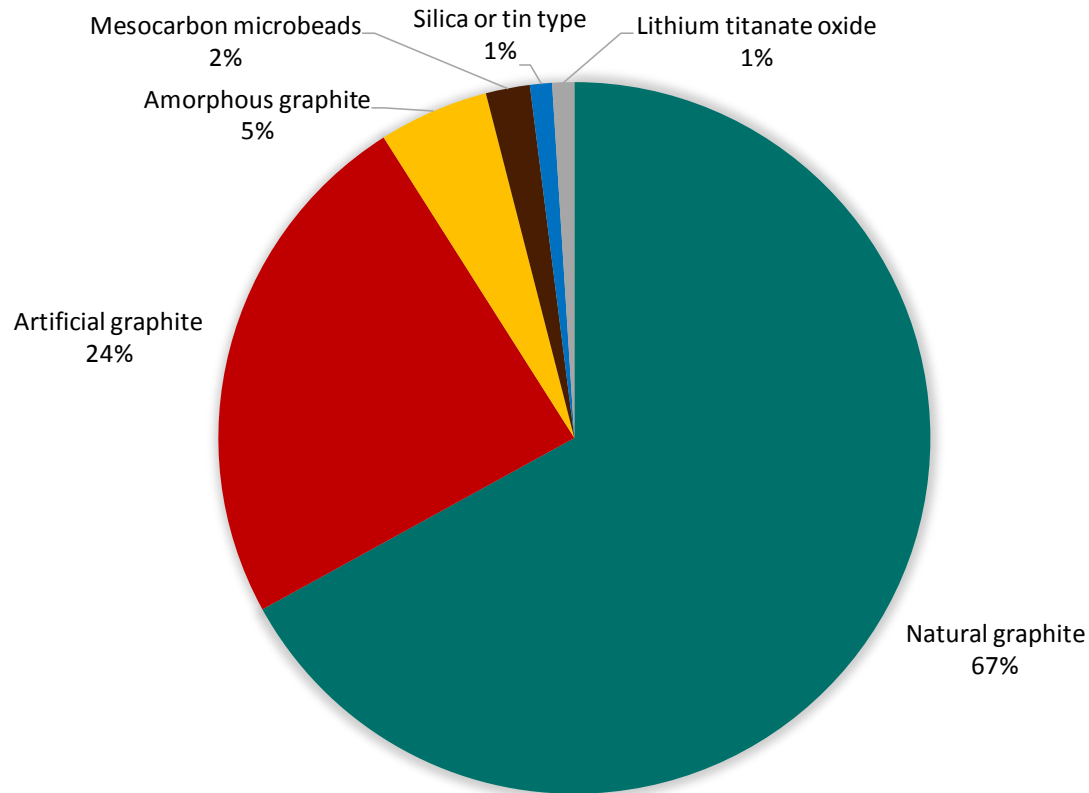
Emerging technology markets



- Emerging macroeconomic theme – **electric vehicles** and **grid storage**
- Significant **lithium ion battery** demand continues
- **Coated spherical graphite** used as **anode material** in lithium ion batteries
- **1KWh** requires **~1kg** of spherical graphite
- Increasing **shift** towards **natural graphite** as a cost effective alternative to synthetic graphite



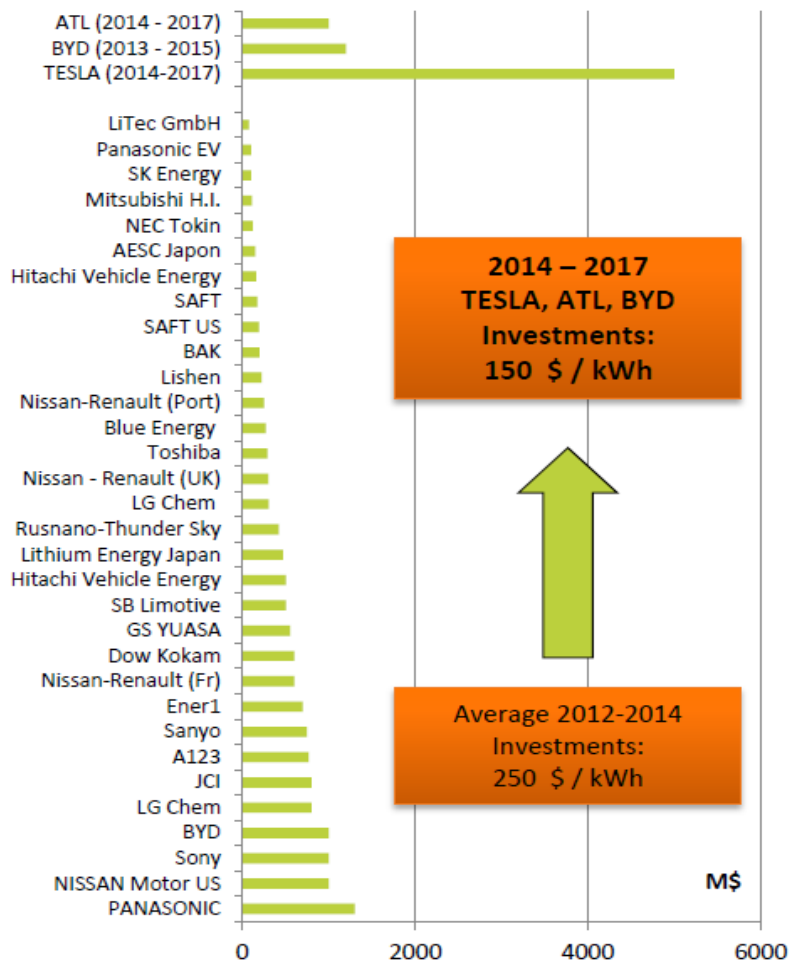
Anode materials used in lithium ion batteries



Composition of anode materials used in lithium ion batteries in 2014
(Source: Avicenne Energy 2015)



Significant planned battery capacity



- Significant **additional** planned lithium ion battery capacity has been announced globally
 - **US\$10 billion – US\$12 billion** invested during 2011 to 2014
 - **Over US\$6 billion** is expected to be invested from 2014 to 2017 by Telsa, BYD and Amperex Technology Limited

Historical and expected lithium battery manufacturing investment - 2011 to 2017 (Source: Avicenne Energy 2015)



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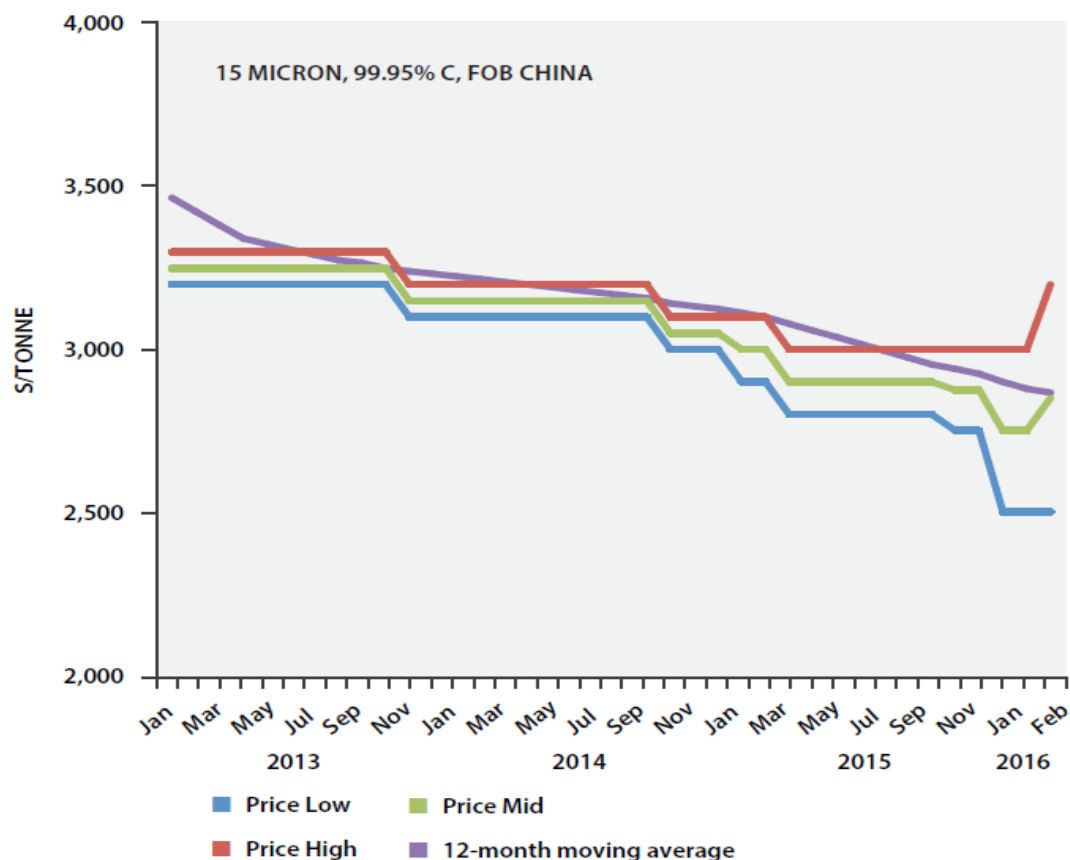
Spherical graphite prices



- **Benchmark Minerals** (March 2016) reports:
 - **Spherical graphite prices** continue to be more **resilient** than flake prices
 - **Mid** prices and **high prices** for 99.95% C uncoated spherical graphite have risen
 - **Widening price ranges** are a **sign of a market** that is seeing increasing **demand**
 - **Price rises** are **intensifying** and likely to experience **upward pressure** for the remainder of **2016**



Historical spherical graphite prices



Historical 15 micron, 99.95% C FOB China uncoated spherical graphite prices (Source: Benchmark Minerals)



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Global electric vehicle lithium ion battery market



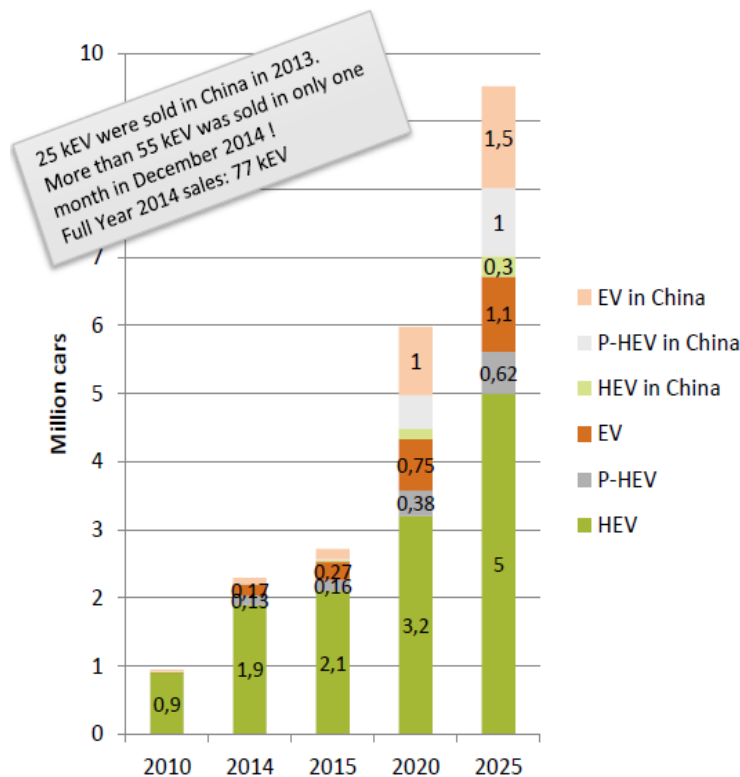
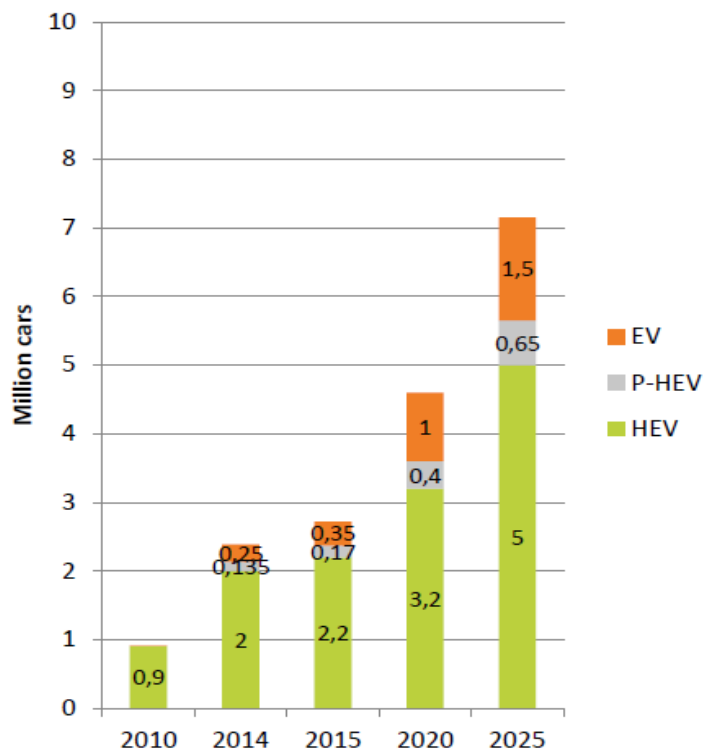
- **Global electric vehicle lithium ion battery market** was US\$5 billion in 2015; forecast to increase to **US\$11 billion** in **2020** and **US\$15 billion** in **2025**⁽¹⁾
- **Lithium ion battery market** currently driven by **consumer electronics** (laptops, smartphones, tablets, etc.)
- **Electric vehicles** are forecast to be another **key driver** over the medium and long term:
 - 4.5 million to 6.0 million PHEV, HEV and EV forecast to be produced by 2020⁽¹⁾
 - 7.0 million to 9.5 million PHEV, HEV and EV forecast to be produced by 2025⁽²⁾
 - **China** is a **potential game changer** with its very high incentives and strong government support for the Chinese electric vehicle industry

(1) Source: Avicenne Energy 2015

(2) PHEV = Plugin hybrid electric vehicles, HEV = Hybrid electric vehicles, EV = Electric vehicles



Historical and forecast global EV market – 2010 to 2025



Global PHEV, HEV and EV forecast to 2025 – Base Case (left), China Growth Case (right)
(Source: Avicenne Energy 2015)



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Spherical graphite demand – an illustrative example



- The recent unveiling of the **Tesla Motors' Model 3** is illustrative of the increasing demand for spherical graphite
- The Model 3 had pre-orders of almost 400,000 vehicles three weeks after launching, which will require almost **29,000 tonnes** of **coated spherical graphite**⁽¹⁾
- This equates to nearly **58%** of **total global spherical graphite supply** in **2015**
- Benchmark Minerals estimates that at least **12 lithium ion battery megafactories** are in the pipeline between now and 2020
- Of these 12 operations, only **two** are located in the **United States** (Nevada and Michigan), while **seven** are located in **China**. Europe, Taiwan and Korea are the three other locations expecting significant new battery capacity.

(1) Based on Benchmark Mineral estimates



Tesla Model 3



Newly unveiled Tesla Model 3 which had nearly 400,000 pre-orders three weeks after launching on 31 March 2016



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Other potential lithium ion battery markets



- Other potential lithium ion battery markets include **energy storage**, **E-bikes**, **medical carts** and **power tools**
- In **2012**, the **lead acid battery market** for these **other applications** was **US\$13 billion** compared to **US\$3 billion** for **lithium ion batteries**⁽¹⁾⁽²⁾
 - **Opportunity** for lithium ion batteries to **displace** lead acid batteries in other applications
- **Other applications market** for **lithium ion batteries** forecast to increase to **US\$10 billion** in **2020**⁽¹⁾⁽²⁾

(1) Source: Avicenne Energy 2015

(2) Market size is based on battery pack level

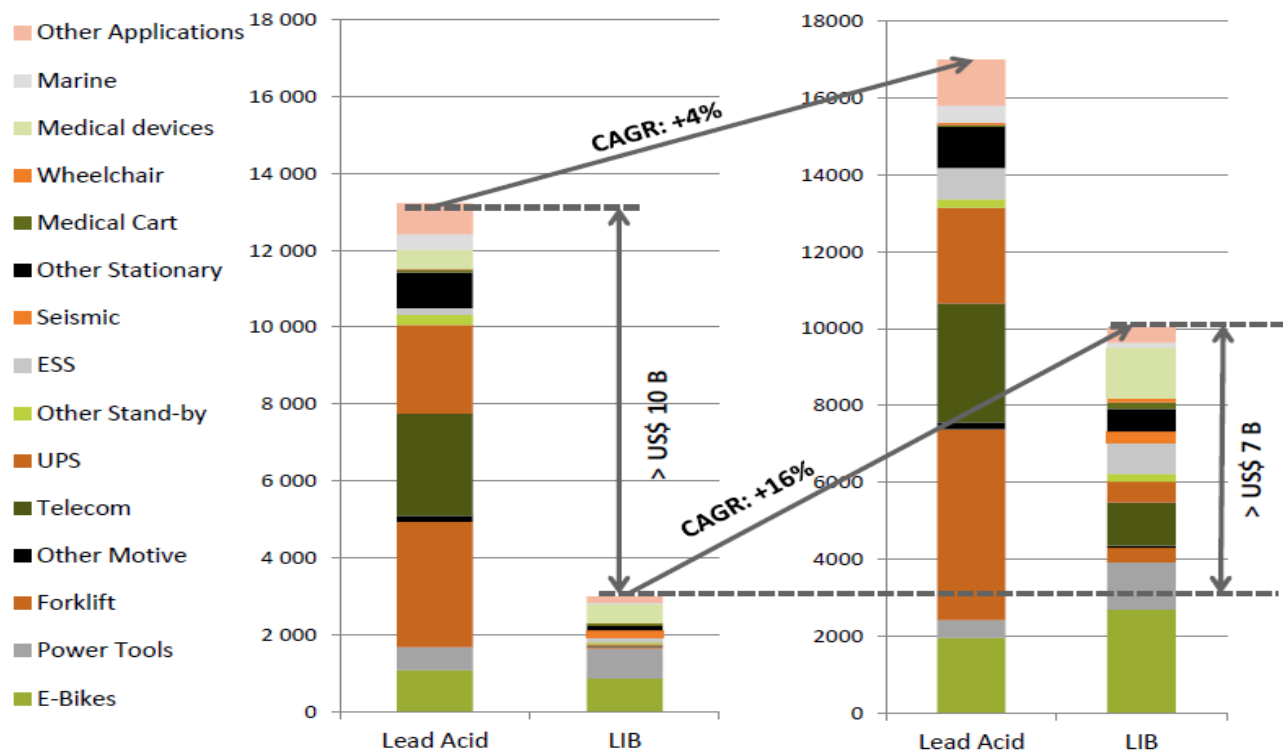


Historical and forecast global battery markets for other applications



Battery market in 2012 (M\$)

Battery market in 2020 (M\$)



Historical 2012 and forecast 2020 global lead acid battery and lithium ion battery markets for other applications
(Source: Avicenne Energy 2013)



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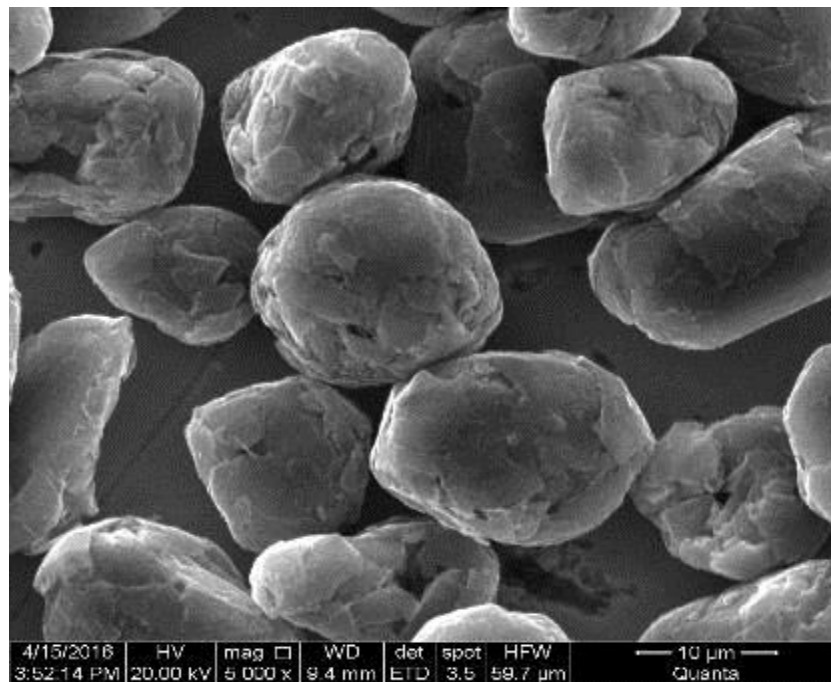
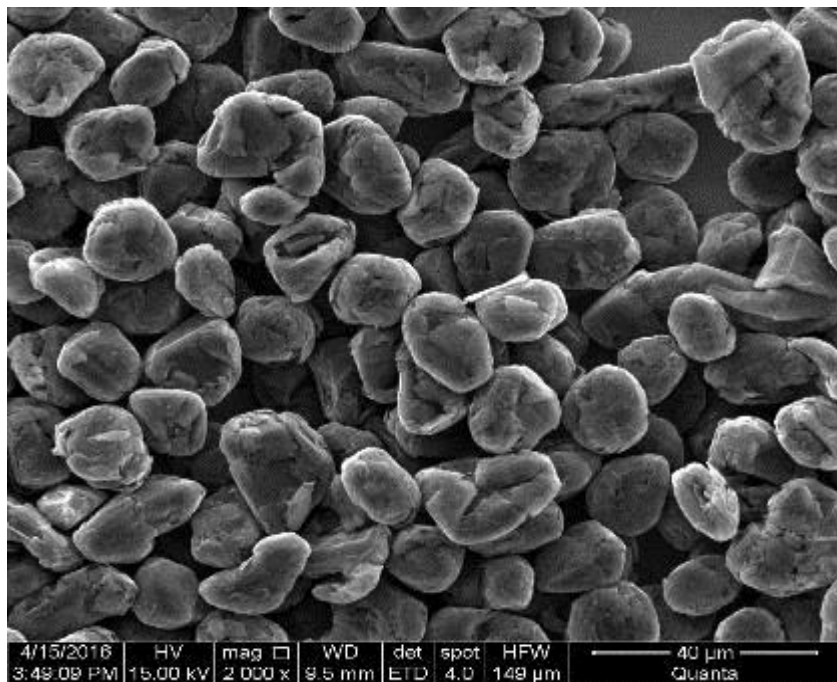
Ideal characteristics of flake graphite for battery applications



- **Optimal flake size** – using -100 mesh maximises production yield
- **Degree of crystal order** – Balama graphite has a fully ordered crystalline structure
- **Degree of spheroidisation** – well rounded spherules increases tap density and anode efficiency
- **Purity level** – purification to 99.95%+ carbon increases anode life and conductivity
- **High production yields** – test work to date has shown that a spherical graphite production yield of 50% can be achieved with Balama graphite, compared to typical yields of 30% to 40%



Balama spherical graphite

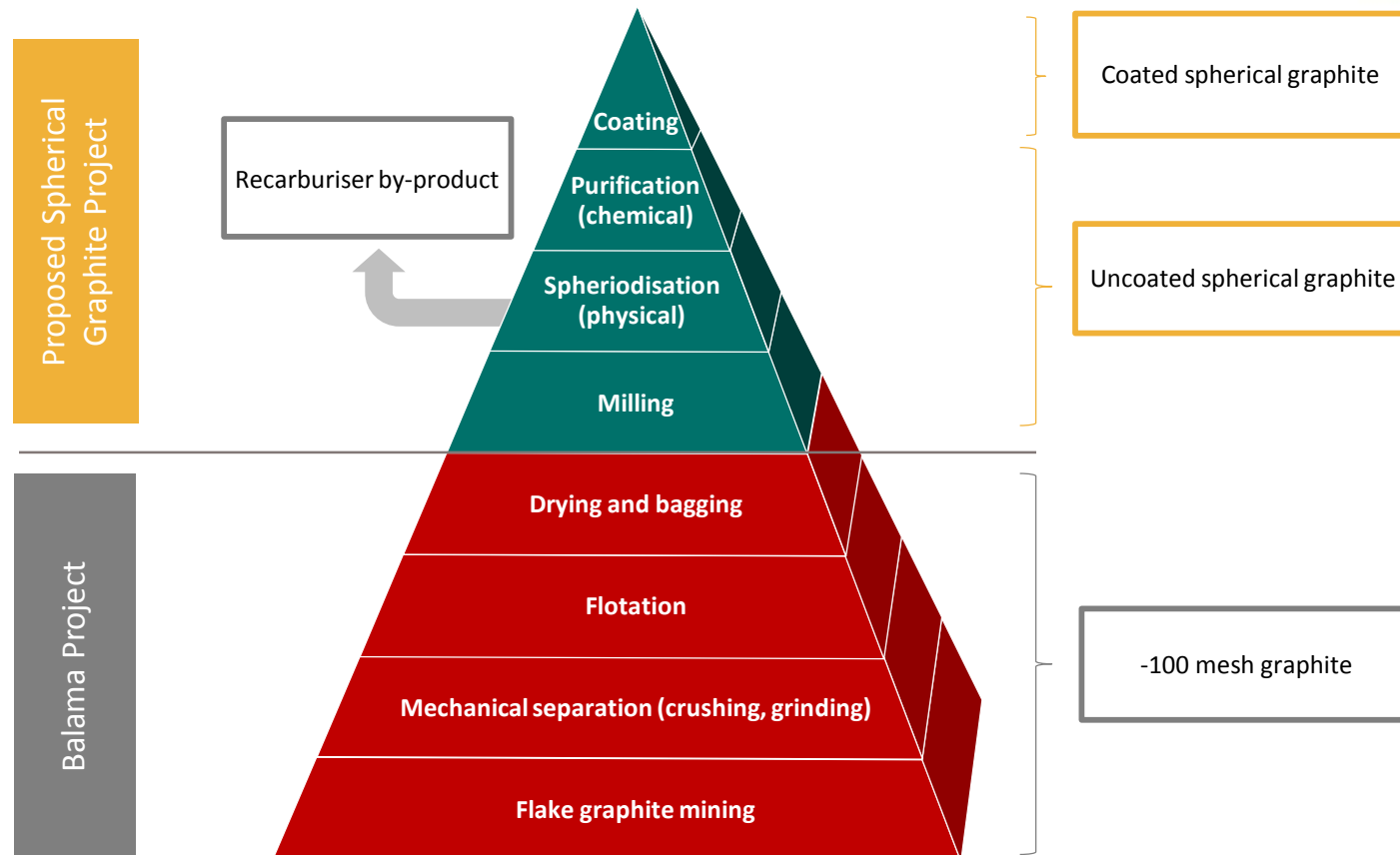


Purified, uncoated Balama spherical graphite



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Spherical graphite production



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Integrated spherical graphite production chain



- **20 year, exclusive⁽¹⁾** licensing agreement signed with Hairong Morgan for its proprietary spherical graphite **coating** technology
- Ability to build an **integrated production chain** from mine to anode quality material
- Balama is the **solution** to a key component of the technology markets supply chain
- **Engineering Study** to be finalised in mid-2016 for an United States based facility to produce **30,000 tpa** of **spherical graphite** and **over 30,000 tpa** of **recarburiser**
- Based on independent **demand forecasts**, Syrah believes that the **Proposed Spherical Graphite Facility** will need to be **significantly expanded** over time
- **Balama spherical graphite** has now been **qualified** by **three major global battery producers**

(1) Syrah has exclusive rights globally excluding the People's Republic of China. Refer ASX announcement dated 11 November 2015



Recarburiser

- High quality carbon additive for **steel making** and **iron casting** industries
- Opportunity to **displace** lower quality recarburisers (e.g. petroleum coke)
- **By-product** of spherical graphite production
- Creates another **revenue stream** for the Proposed Spherical Graphite Facility



High quality, low impurity Balama natural graphite recarburiser
(each approximately 5mm long)





The Balama journey



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The future of graphite



- World's largest, **low cost** producer, with a capacity over **350,000 tpa**⁽¹⁾
- Balama has the ability to become a **long term, consistent** and **high quality** graphite supplier
- **Rapid** progress – **concept** to **mine development** in **4 years**
- Highly **experienced** Board and management team
- Ideally **positioned** to innovate and bring **enhanced value** to **industrial** and **emerging technology markets** globally
- **Production ramp up** Balama Project in early 2017

(1) Average annual production over first 10 years.



Key contacts

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Appendices



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Board of directors and Executive management team



Jim Askew

Non-Executive Chairman

Over 40 years of experience as a Director / CEO of Australian and international publicly mining companies



Tolga Kumova

Managing Director

Co-founder of Jacana Resources and over 15 years experience in stockbroking and corporate finance



Sam Riggall

Non-Executive Director

Over 20 years of experience in mining project generation and evaluation, business development and capital market transactions



Rhett Brans

Non-Executive Director

Over 40 years experience in the design and construction of mineral processing facilities and extensive African experience



José Caldeira

Non-Executive Director

Pre-eminent legal and regulatory professional in Mozambique with over 25 years experience



Darrin Strange

Chief Operating Officer

25 years of experience in mining, manufacturing and engineering firms in Australia and internationally



David Corr

Chief Financial Officer

Over 15 years of experience in the resources industry in Australia and internationally



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Feasibility Study – detailed operational and financial metrics



Operational metrics

Operational period	years	42
Plant feed rate	tpa	2,000,000
Average strip ratio (life of mine)	ratio	0.04 ⁽¹⁾
Average head grade (life of mine)	%	16.2
Average recovery (life of mine)	%	92.5
Average production (life of mine) - 95% TGC	tpa	313,000

Financial metrics

Total initial capex (including 10% contingency)	US\$m	144 ⁽²⁾
Assumed weighted average basket price (LOM) ⁽⁵⁾	US\$/t (FOB) ⁽³⁾	1,000 ⁽⁴⁾
Average operating cash costs over life of mine	US\$/t product (FOB) ⁽³⁾	286
Post-tax NPV (10% discount rate)	US\$m	1,125
Internal rate of return (IRR)	%	70.7
Payback period from commencement of production	years	< 2

Note: Refer to "Balama Feasibility Study and Corporate Presentation" as announced to ASX on 29 May 2015 for relevant assumptions and qualifications to the conclusions of the Snowden Feasibility Study.

(1) Inclusive of economic low grade ore ranging from >2% to <9% which will be stockpiled for processing in the future.

(2) Based on CPC Engineering FEED study and includes a 10% contingency.

(3) FOB from Port of Nacala.

(4) The assumed weighted average basket price (LOM) of US\$1,000/t used in the Feasibility Study was based on the three year historical weighted average basket market price of natural graphite from 2012-2014 as sourced from Industrial Minerals and Benchmark Minerals. It is estimated that a US\$100/t change in realised price over the LOM would impact the Feasibility Study post-tax NPV by approximately US\$190m.

(5) Excluding royalties and taxes.



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JORC Mineral Resources and Ore Reserves



Balama Graphite (JORC Code 2012)

Mineral Resources⁽¹⁾

Classification	Mt	TGC (%)	Contained Graphite (Mt)
Balama West			
Measured	75.0	11.0	8.4
Indicated	110.0	8.1	9.1
Inferred	460.0	11.0	51.0
Balama East			
Indicated	76.0	14.0	11.0
Inferred	470.0	10.0	49.0
Total			
Measured	75.0	11.0	8.4
Indicated	186.0	11.0	20.1
Inferred	930.0	11.0	100.0

Ore Reserves⁽¹⁾

Classification	Mt	TGC (%)	Contained Graphite (Mt)
Balama West			
Proven	20.0	19.2	3.8
Probable	2.6	17.5	0.4
Subtotal	22.5	19.0	4.3
Balama East			
Proven	—	—	—
Probable	58.8	15.1	8.9
Subtotal	58.8	15.1	8.9
Total			
Proven	20.0	19.2	3.8
Probable	61.4	15.2	9.3

(1) Ore Reserves estimate is as at November 2014 at a 9% TGC cut-off; Mineral Resource estimate at a 3% TGC cut-off grade (constrained within a US\$1,200 pit shell). Refer to "Syrah finalises Balama Graphite study and declares maiden ore Reserve" as announced to the ASX on 29 May 2015. Refer to page 39 of this announcement for Competent Persons statement.



Competent Person Statement – Balama graphite

The information in this report that relates to Mineral Resources and Ore Reserves is extracted from the report titled “Syrah finalises Balama Graphite study and declares maiden ore reserve” released to the ASX on 29 May 2015 and available to view at www.syrahresources.com.au and for which Competent Person’s consents were obtained. The Competent Person’s consents remain in place for subsequent releases by the Company 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 Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcement released on 29 May 2015, and in the case of estimates of Mineral Resources and Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original ASX announcement.

Full details are contained in the ASX release dated 29 May 2015 “Syrah finalises Balama Graphite study and declares maiden ore reserve” available at www.syrahresources.com.au.

