

# Q1 2019 Quarterly Activities Report

Shaun Verner – Managing Director & CEO  
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# Q1 2019 Headlines

<b>Safety</b>	<ul style="list-style-type: none"> <li>• Strong safety record with Total Recordable Injury Frequency Rate (TRIFR) of 0.6 as at end of quarter</li> </ul>
<b>Balama Graphite Operation</b>	<ul style="list-style-type: none"> <li>• Produced 48kt, up 45% relative to Q4 2018, with record production in March of ~19kt</li> <li>• C1 operating cash cost<sup>1</sup> continues to decline</li> <li>• Initial Vanadium sampling completed, facilitating market engagement</li> </ul>
<b>Sales and Marketing</b>	<ul style="list-style-type: none"> <li>• Strong volume demand evident, sold and shipped 48kt in Q1 2019 versus 37kt in Q4 2018, continued improvement in contract performance and logistics</li> <li>• Weighted average graphite price achieved of US\$469 per tonne, lower than planned</li> <li>• End-market demand drivers positive with 2018 steel production and global electric vehicle sales up 4.6% and 64% respectively</li> </ul>
<b>Battery Anode Material (BAM) Project</b>	<ul style="list-style-type: none"> <li>• Unpurified spherical graphite for qualification dispatched targeting ex-China customers</li> <li>• Commissioning of the purification circuit commences in May and first purified spherical production planned during Q2 2019</li> <li>• Major review of BAM commercial scale plant and product range essentially completed, providing attractive economics, key outcomes to be released in Q2 2019</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>• Cash at quarter end was US\$62.4 million</li> <li>• Net cash outflow was US\$14.7 million versus plan of US\$20 million, difference being ~US\$5 million payments timing variance,</li> <li>• Q2 2019 planned net cash outflow of US\$14.5 million plus US\$5 million carried over from Q1 for total forecast of US\$19.5 million, with cash balance as at of Q2 2019 ~US\$43 million</li> <li>• Extensive engagement in development of debt funding during Q1 and Syrah continuing to evaluate options</li> </ul>

(1) FOB Port of Nacala, excluding government royalties and taxes



# Q1 2019 Sustainability Highlights

## Health, Safety and Environment

- Strong safety record with TRIFR per million hours worked of 0.6 at quarter end
- Malaria screening program continued with 3,050 employees and contractors checked with 295 malaria cases treated and averted
- Environmental Monitoring Program continued in line with over 200 licence conditions with zero significant environmental incidents
- A review the Company's Environmental Social Management Plan and Monitoring Program is underway in preparation of the Environmental Licence in April 2020
- Review of the Balama TSF over past 12 months for potential transition from wet deposition to dry stacking as part of Syrah's TSF Governance Framework

## People and Community

- As at the end of the quarter 96% of Balama's direct employees are Mozambican nationals with 55% from the local host communities and ~18% female
- Training for 30 students from host communities commenced at the Balama Professional Training Centre in work readiness, health promotion and basic mechanical/ electrical disciplines.
- Company and Employees donation and direct assistance arranged for the Mozambique Red Cross Appeal to support Cyclone Idai recovery efforts which impacted the city of Beira in the Sofala Province of Central Mozambique in March



*Acknowledgement and celebration of Mozambican Women's Day and workplace diversity at Balama*



*Balama Professional Training Centre students*

# Balama- Increased consistency and performance

Production Summary		Q1 2019 31 Mar 2019	Q4 2018 31 Dec 2018	Q1 2018 31 Mar 2018	Q1 2019 vs Q4 2018
Ore Mined (>9% TGC <sup>1</sup> )	kt	295	416	283	(29%)
Ore Mined (>2% to <9% TGC <sup>1</sup> )	kt	161	133	99	21%
Waste Mined	kt	1	29	69	(97%)
Total Material Moved	kt	457	578	451	(21%)
Plant Feed	kt	378	252	186	50%
Plant Feed Grade		18%	18%	17%	-
Recovery		69%	70%	34%	(1%)
Graphite Produced	kt	48	33	11	45%
- Fine Flake		86%	84%	80%	
- Coarse Flake		14%	16%	20%	
Average Fixed Carbon		95%	95%	95%	-

- Q1 2019 up 45% versus Q4 2018 reflecting production consistency, delivery from ongoing optimisation programs
- Equipment management improvements and recovery increases late March led to greater operational stability; achieved record production month in March of ~19kt
- Total material moved lower than planned due to ROM (Run of Mine) stock management and reduced waste stripping
- Recovery improvement plan continues with a number of trials and learnings through quarter with improvement in graphite liberation, equipment stability and operational processes to achieve medium term target of 88%
- Actions across mine planning, ore blending and dry screening to achieve fines to coarse flake ratio target of 80% to 20% in 2019 and 70% to 30% split in the medium term
- Average fixed carbon (FC) grade was 95% with a range of 94% to 97% FC achieved
- C1 operating cash cost<sup>2</sup> continued to decline as a result of higher volumes and cost management in mining and operations support
- Major focus on further cost reduction activities
- Update to Reserves and Resources with Balama hosting a significant graphite Ore Reserve of 113.3 Mt at 16.36% TGC<sup>1</sup> for 18.5Mt contained graphite at 7.2% cut-off grade as at 31 December 2018<sup>2</sup>
- Results of initial sampling of Vanadium content through the Balama processing plant circuit show similar Vanadium content to the 2014 Scoping Study<sup>3</sup>, metallurgical test work program planned

(1) TGC = Total Graphitic Carbon

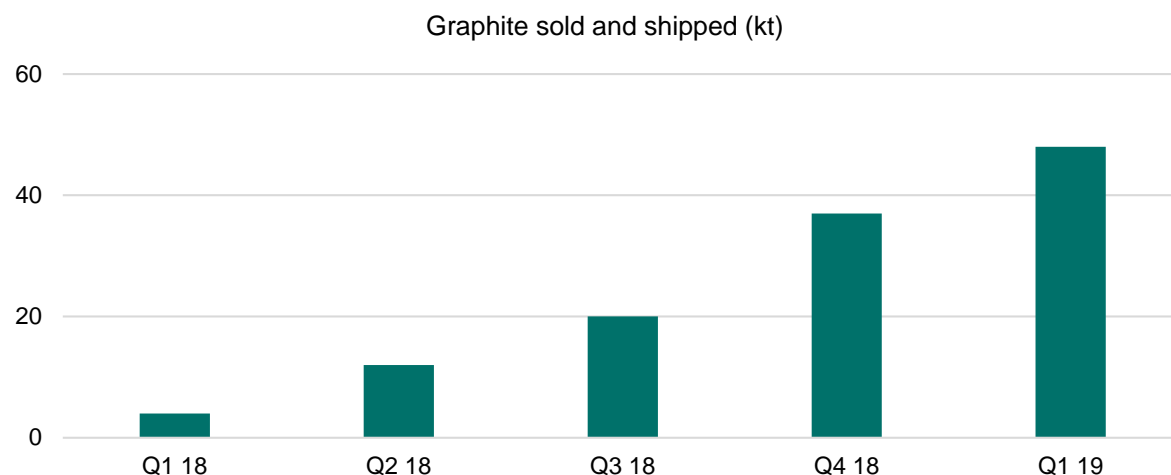
(2) Refer to ASX announcement 29 March 2019 "Graphite Mineral Resources and Ore Reserves Update"

(3) Refer to ASX announcement 30 July 2014 "Vanadium scoping study finalised"

# Sales & Marketing – strong demand and ongoing improvement in logistics

## key drivers of sales volume growth

Natural Graphite Sales Summary		Q1 2019	Q4 2018	Q1 2018	Q1 2019 vs Q4 2018
Graphite Sold and Shipped	kt	48	37	4	30%
Sales Revenue <sup>1</sup>	US\$m	22.5			
Weighted average selling price (CIF)	US\$/t	469			
Inventory at Nacala <sup>2,3</sup>	kt	18	20	2	(10%)
Inventory at Balama/ USA <sup>2</sup>	kt	12	11	5	9%















- Sold and shipped 48kt natural graphite with an additional 18kt sales orders at Nacala awaiting shipment as at quarter end
- Weighted average graphite price achieved of US\$469 per tonne, lower than planned reflecting
  - Product mix
  - Higher proportion of fines graphite sales to China
  - Progress towards close out of lower priced contract volumes carried over from 2018
- Volume demand continued to be strongest in China during Q1 2019, reflecting robust battery segment demand, Ex-China steel and industrial application demand for Syrah product strengthening steadily
- Logistics performance improvement actions continuing, annualised supply chain volume throughput of 250kt achieved
- Demonstrated higher individual daily performance of dispatch, trucking and port delivery supports progress towards nameplate 350kt per annum production

(1) Commercial production declared effective 1 January 2019, prior to this date, operating costs net of sales receipts were capitalised to the Balance Sheet (refer to ASX announcement dated 14 January 2019)

(2) As at end of period

(3) Sales orders awaiting shipment

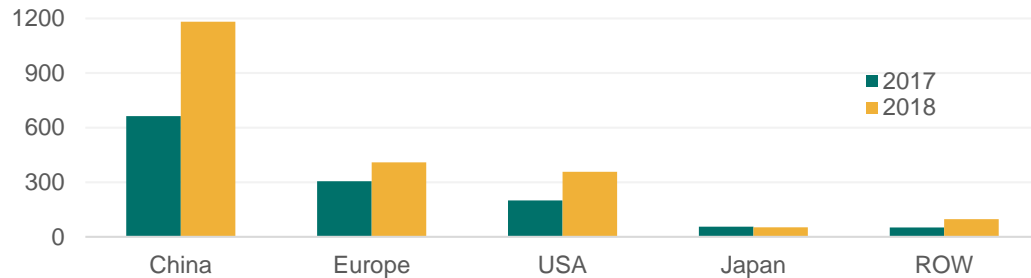
# Pricing Expectations – key variables of Syrah weighted average price have strong upside potential over the short and medium term

Pricing factor		Extent Currently Priced-In	Expected Forward Impact	Expected price development
Focus within next 12 months	Market entry pricing & qualification			Reduced qualification and entry pricing impact from 2019
	Product Mix			Product mix to 20% and towards 30% coarse flake
	Grade			Significant potential for 96%-98% grade premium
	Regional split & alternative supply			Ex-China market penetration upside
Volume & Reliability				Value-in-use and baseload supply premium
Market Balance				China net import expectation for high quality fines

# EV growth and battery capacity investment continues to support natural graphite demand

Graphite key end market growth data		CY 2018	CY18 vs CY17
Global Steel Production	Mt	1,809	4.6%
Global Electric Vehicle Sales <sup>1</sup>	Units ('000)	2,099	64%
- China (56% of sales)	Units ('000)	1,182	78%
- Europe (19% of sales)	Units ('000)	409	34%
- USA (17% of sales)	Units ('000)	358	79%

Geographic EV Sales (units '000)



## Supply

- Chinese natural graphite supply availability continued to be impacted by seasonal shutdowns and prior environmental restrictions, however seasonal production restarts are expected from mid-Q2 onwards.

## Demand

### Lithium ion battery segment

- Graphite is anticipated to remain the key material for anodes for the foreseeable future with significant further growth in the natural flake market expected
- Growth in EV demand continues to support Syrah's expectation of incremental 70kt – 100kt natural flake graphite demand in 2019
- China continues to dominate battery manufacturing capacity expansion, with BYD commencing construction of a new 20 GWh facility with expected investment spend of ~US\$1.5 billion
- Chinese government mandated the replacement of Internal Combustion Engine (ICE) buses with electrified models in all major cities by 2020
- USA battery and EV manufacturing capacity developing as expected
  - SK Innovation announcing a US\$1.7 billion 9.8GWh per annum battery plant in Atlanta
  - General Motors investing US\$300 million in its Michigan assembly plant to produce a new Chevrolet EV which is in addition to its existing Chevrolet Bolt EV
- In Europe, Contemporary Amperex Technology (CATL) is investing EUR 240 million for an initial 14GWh per annum lithium ion battery expansion and SK Innovation plans to invest US\$859 million in an additional battery plant

### Steel end use segment

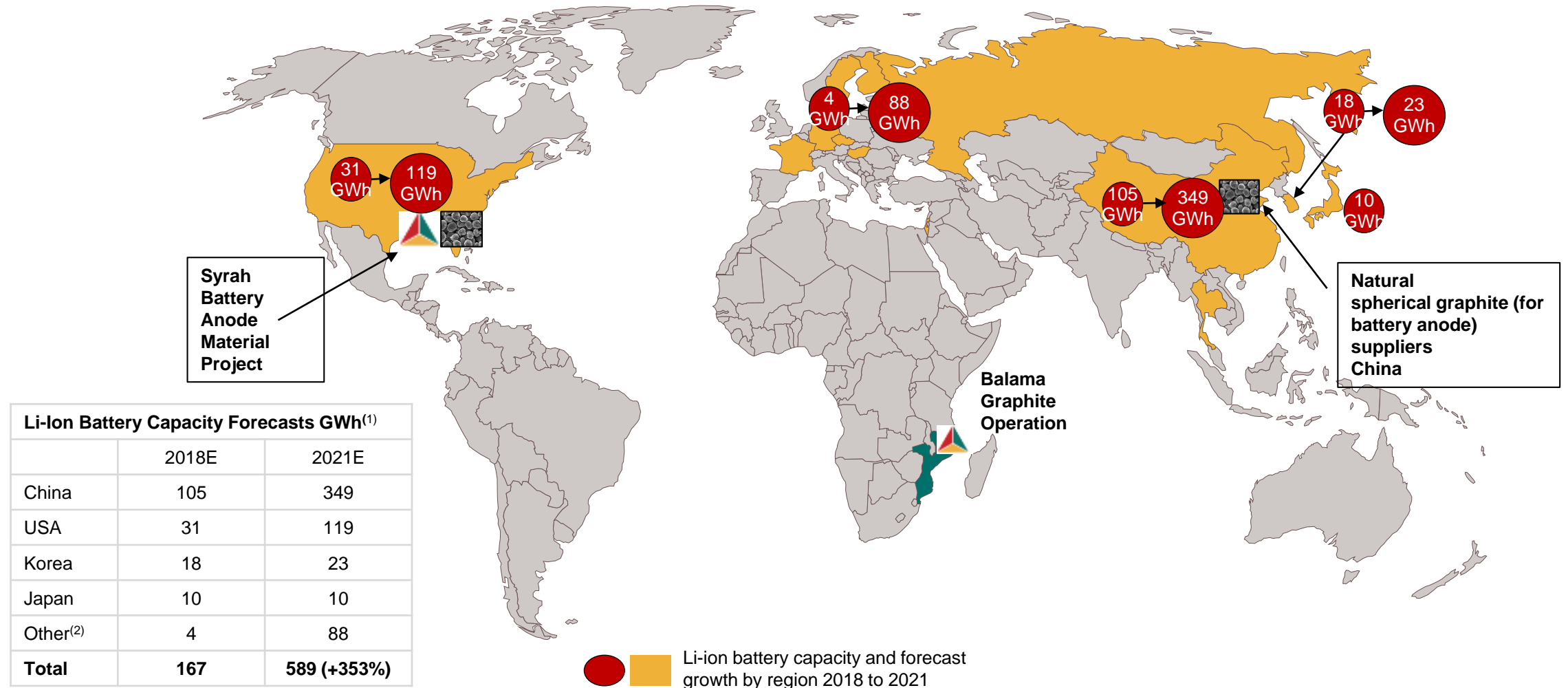
- Syrah expects flat graphite demand from the steel sector as China continues to transition from an infrastructure driven to a consumption led economy
- Ex-China demand expected to improve, providing support to the refractory markets

(1) Includes all BEV and PHEV passenger car sales, light trucks in North America and light commercial vehicles in China and Europe  
Source: World Steel Organisation, EVvolumes.com



# Syrah's natural spherical graphite competition is entirely Chinese;

## Li-ion battery capacity expanding across regions



(1) Source: Bloomberg New Energy Finance

(2) Other: Mainly Europe



# Battery Anode Material (BAM) Project progress provides foundation for commercialisation opportunities

## BAM Site Louisiana

- Initial production capacity remains focussed on customer qualification of spherical products and coated product development, currently requires small volumes
- Unpurified spherical graphite for qualification dispatched during Q1 targeting ex-China customers with qualification period generally three to six months
- Installation of purification equipment for batch processing progressed, however initial production of purified spherical graphite delayed primarily due to timing of City of Vidalia gas line extension
- Commissioning of the purification circuit to commence in May and first purified spherical production planned during Q2 2019



Left image: Vidalia milling equipment

## Commercial plant project and anode product development accelerated in Q1

- Major BAM commercial scale review essentially completed, with new plant flow-sheet, revised capex profile and product options providing attractive economics
- Key elements of the review released during Q2 2019
- Development timeline scenarios will be outlined, to be driven by funding and partnership options
- Good progress on anode product development focussed on cost reduction and increased product performance
- Syrah continues to derive value from Cadenza Innovation Inc. input
- Expanded commercialisation opportunities and customer engagement enabled by
  - Expected purified spherical samples produced from Vidalia
  - Product development progress
  - Detailed commercial plant plan review



Right image: Intermediate storage bins, product bagging line, leach tank and filter press

# Finance – Balama operational and BAM cash draw to reduce significantly from Q3 2019

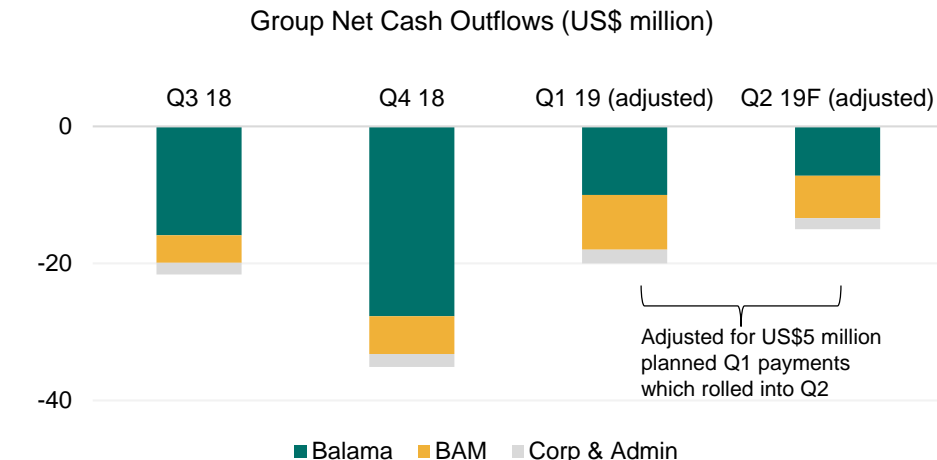
Cash			
	Q2 2019 (Forecast) US\$m	Q1 2019 (Actual) US\$m	Q1 2019 (Forecast) US\$m
Cash at start of period	62.4	77.1	77.1
Group Net cash (outflows)	(19.5)	(14.7)	(20)
- Net working capital movements at Balama pre commercial production	-	(2.6)	
- Net operating activities at Balama post commercial production and sustaining capital	(12.5)	(4.6)	(10)
- BAM plant development and R&D	(6)	(6.5)	(8)
- Corporate & Administration and other	(1)	(1.0)	(2)
Cash at end of period	~43	62.4	~55-57

- Syrah has undertaken more extensive engagement in the development of debt funding during the quarter and continues to evaluate options.

## Net cash outflow profile

Further major reduction in Balama operational and BAM cash draw

- Q2 2019 last significant BAM capital spend at Vidalia
- Balama operational net cash position continues to improve through:
  - Increase sales volumes
  - Focus on structural cost reduction
  - Improved pricing achieved from product mix, higher fixed carbon grade



Note:

Q3 18 and Q4 18 excludes net proceeds of the Placement, Share Placement Plan and VAT refund  
 Balama includes operating and development costs net of sales receipts and sustaining capital  
 BAM includes Vidalia plant capital spend, and research and development costs

# 2019 Outlook

## Balama Graphite Operation

- Syrah will continue to review and manage the trade off between additional supply through production volume increase and realised prices to ensure that margin and cash impacts are optimised
- Q2 2019 production target 50kt – 55kt, 2019 unchanged at 250kt<sup>1</sup> subject to market conditions
- Focus on greater coarse flake split and higher carbon grade content for price improvement
- C1 cash operating costs<sup>2</sup> trending towards US\$400 tonne during 2019 via production volume increase and structural cost management

## BAM

- Initial production of purified spherical graphite in Q2 2019
- Key elements of BAM commercial plant review to be released in Q2 2019, development timeline scenarios to be driven by funding and partnership options
- Product development in conjunction with Cadenza continues to focus on production costs and increased product performance

## Marketing

- Increased production consistency and stabilised logistics throughput provide a solid base for improved buyer confidence and a stronger negotiation position for Syrah
- Increases to weighted average CIF price to be achieved through
  - Improved product mix
  - Higher product grade skewed towards 96% and 97% fixed carbon
  - Finalisation of lower priced 2018 contracts carried over
  - Further geographic diversification of sales book ex China
- Chinese seasonal production restarts expected from mid Q2 onwards

## Cash and Liquidity

- Q2 2019 planned net cash outflow of US\$14.5 million plus US\$5 million carried over from Q1 for total forecast of US\$19.5 million, forecast cash balance as at Q2 2019 ~US\$43 million
- BAM capital spend largely complete in Q2 2019, increasing production and product mix optimisation at Balama, logistics enabling sales volume growth, and structural cost management actions being implemented, cash draw from operations at Balama and BAM expected to reduce significantly from Q3 2019
- Debt options continue to be evaluated

(1) Refer to ASX announcement 29 March 2019 "Graphite Mineral Resources and Ore Reserves Update". All material assumptions underpinning the production target in this announcement continue to apply, other than as updated in subsequent ASX announcements

(2) FOB Port of Nacala, excluding government royalties and taxes

