



**Battery Minerals Limited  
Presentation February 2019**

# Board Management



**Jeff Dowling**  
Non-Exec Chairman



**David Flanagan**  
Managing Director



**Brett Smith**  
Non Exec Director



**Gilbert George**  
Non Exec Director



**Paul Glasson**  
Non Exec Director



**Ivy Chen**  
Non Exec Director



**Ben Vanroon**  
Chief Operating Officer



**Nick Day**  
Chief Financial Officer



**Nick Stephens**  
Head of Marketing



**Naomi Scott**  
General Counsel



**Tony Walsh**  
Company Secretary  
& GM Corporate

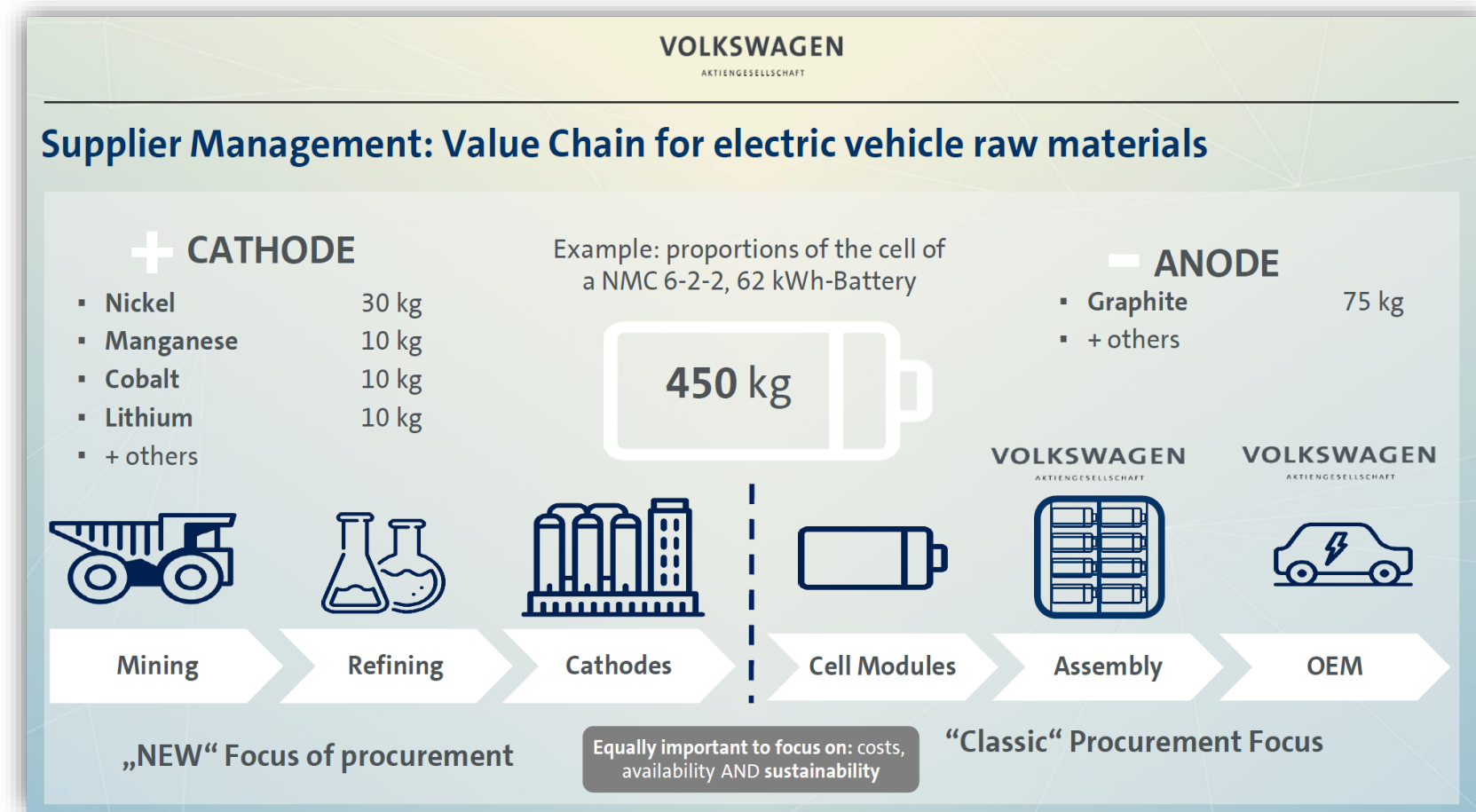
## Share Price for last 12 months



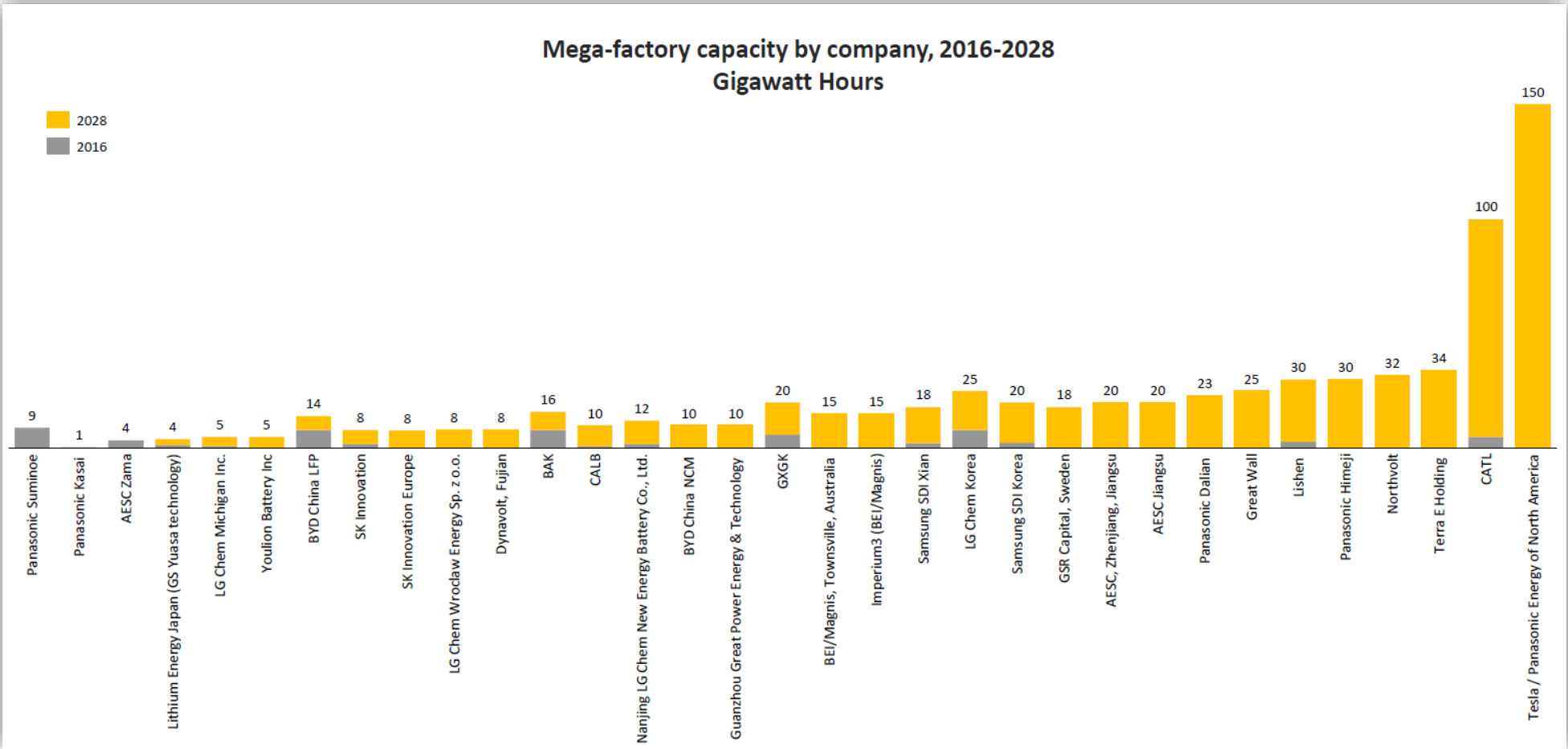
## Capital Structure

Shares on Issue (ASX Code: BAT)	1,113.7M
Board and Management	>10% fully diluted
Share price (as at 25 <sup>th</sup> January 2019)	2.2cps
Market Capitalisation (as at 25 <sup>th</sup> January 2019)	\$24.5 million
Cash at bank (as at 31 <sup>st</sup> Dec 2018)	\$7.2 million
Enterprise Value	\$17.3 million
Top 20 Shareholders	~40%
Listed Options (ASX Code: BATO 10 cents exercise price, expire 23/7/23)	172.3 million
Unlisted Options	146.7 million

# Graphite in Electric Vehicles- VW



# Benchmark Intelligence - Megafactory Capacity - Oct 2018

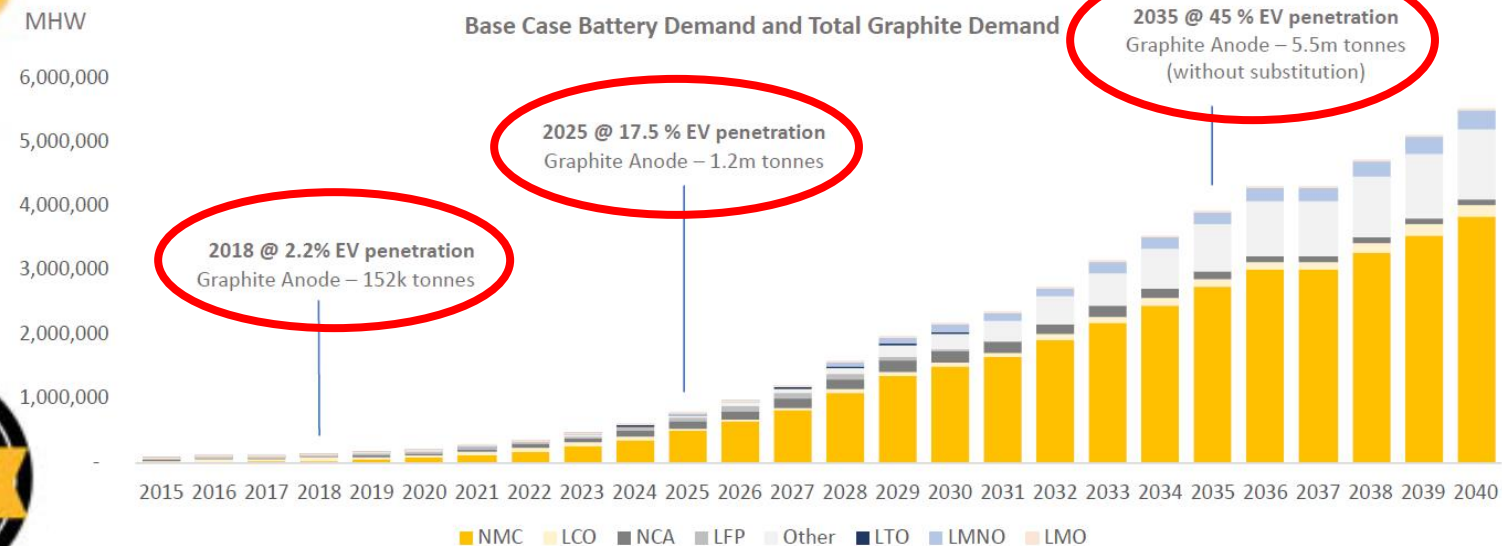


# Benchmark Minerals Intelligence – Megafactory Capacity Oct 18

## Graphite Forecasts and Challenges

Can the mining industry keep up?

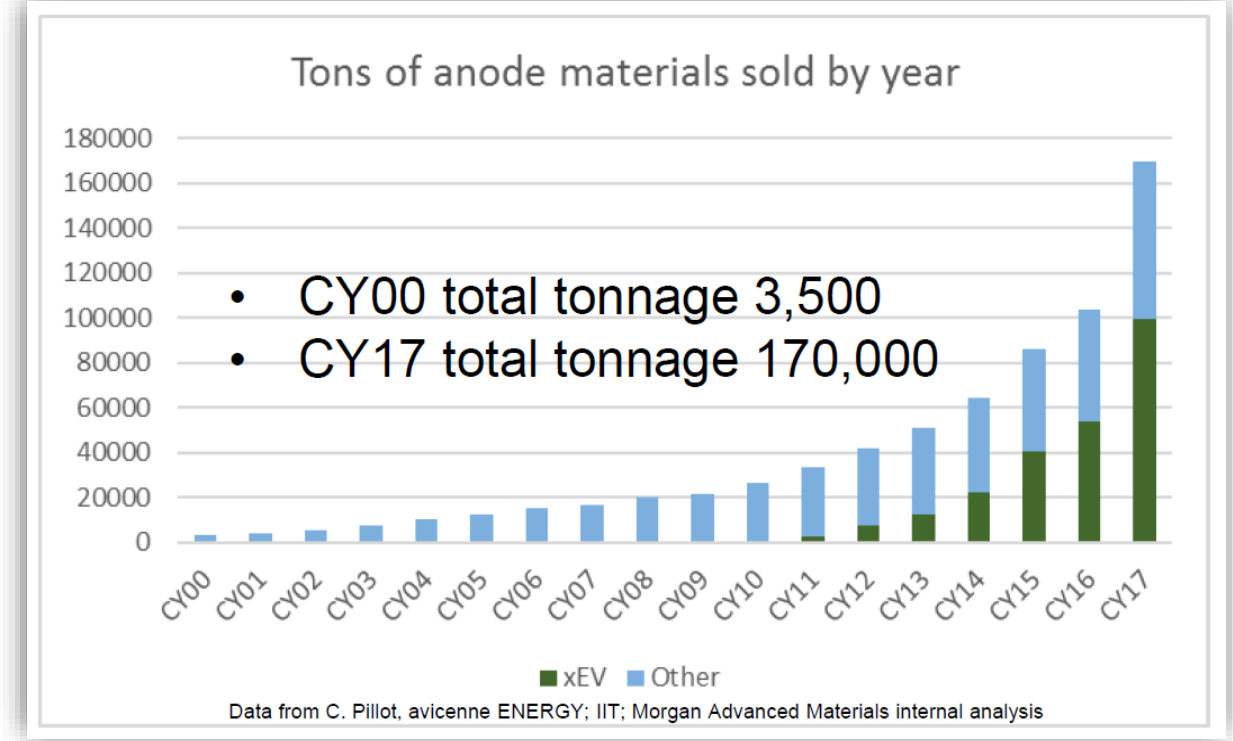
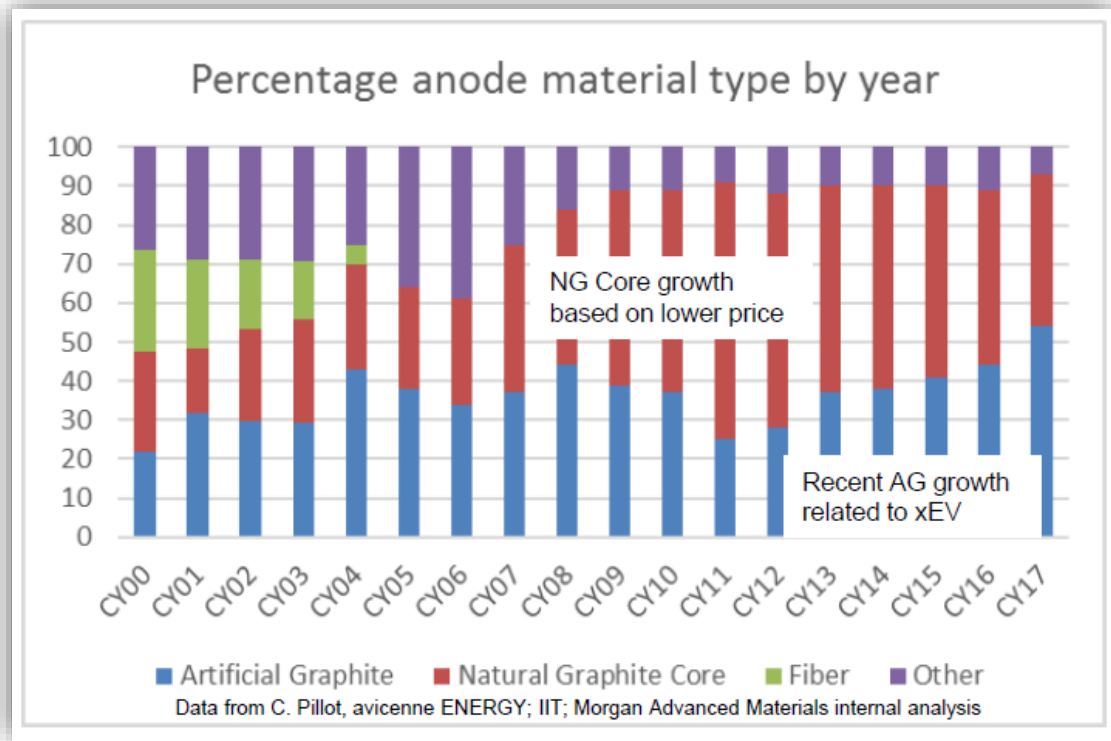
- Structural deficit reached in 2026, assuming most current projects are funded
- Some substitution risk from silicon, solid state and manufacturing advances
- Graphite offers a number of opportunities for private equity and junior miners seeking financing



BENCHMARK MINERAL INTELLIGENCE – GRAPHITE & ANODES - COPYRIGHT



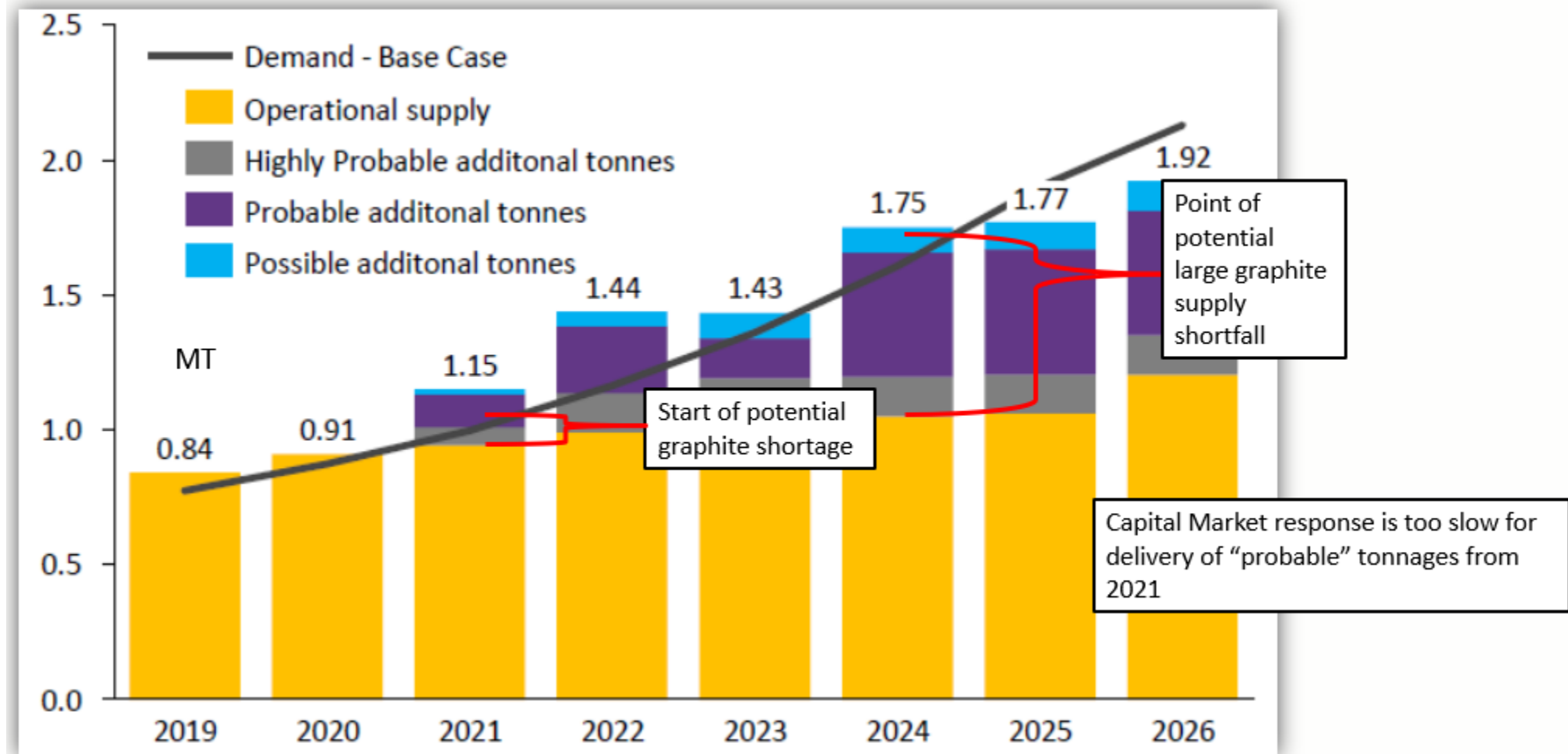
# Anode Material By Type



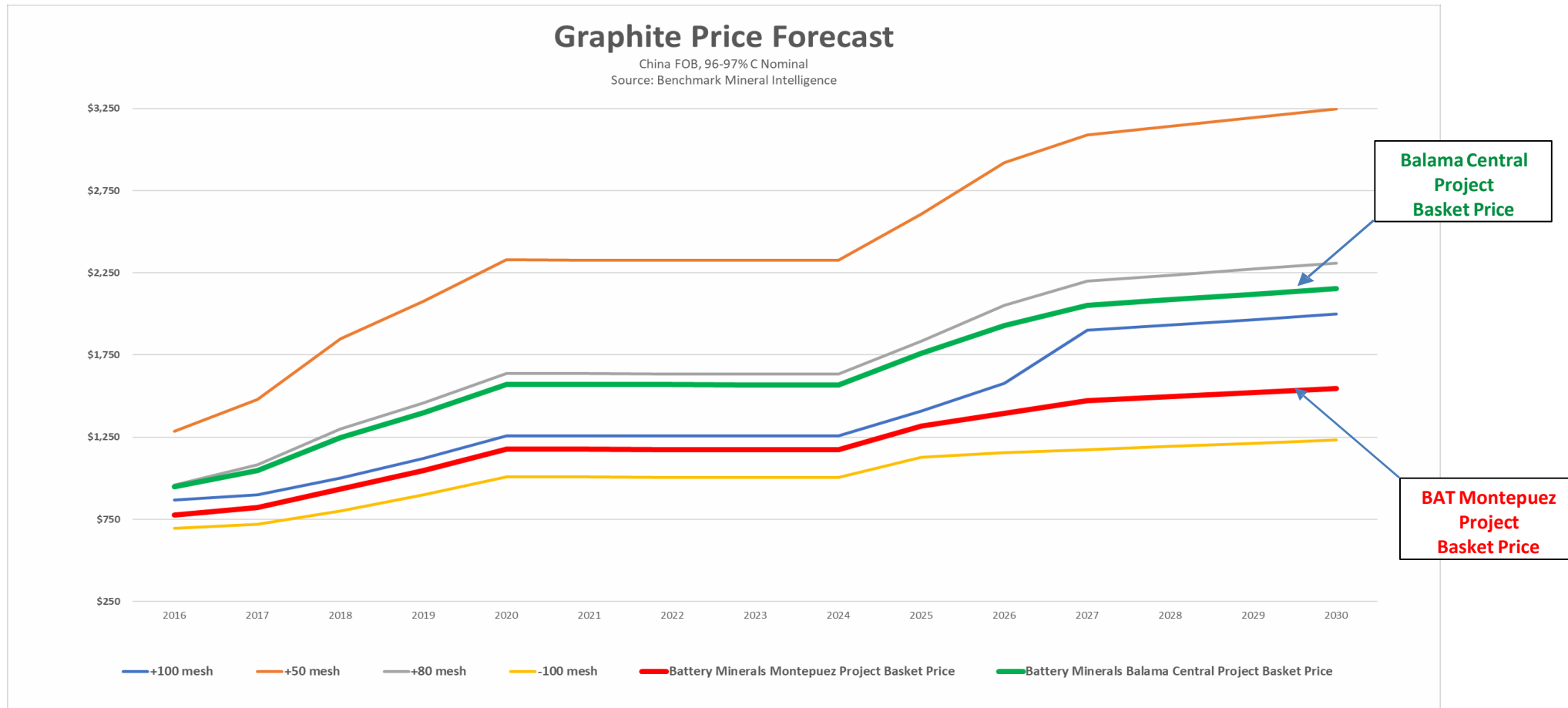
- Chinese markets have grown consumption of Natural graphite in anode production to circa 35%. We expect this to grow as a proportion as new projects come on line and successfully compete with synthetic graphite and migrate towards the successful technologies being deployed in other markets.
- Japanese markets are typically consuming 45-50% natural graphite in lithium ion battery anodes. We expect this to increase steadily as new projects come on line and successfully compete with synthetic graphite
- Global supply of needle coke suitable for conversion to remains ultra high cost and unreliable, ensuring natural graphite will remain competitive

# Benchmark Minerals Intelligence

## Flake Supply - Demand Balance

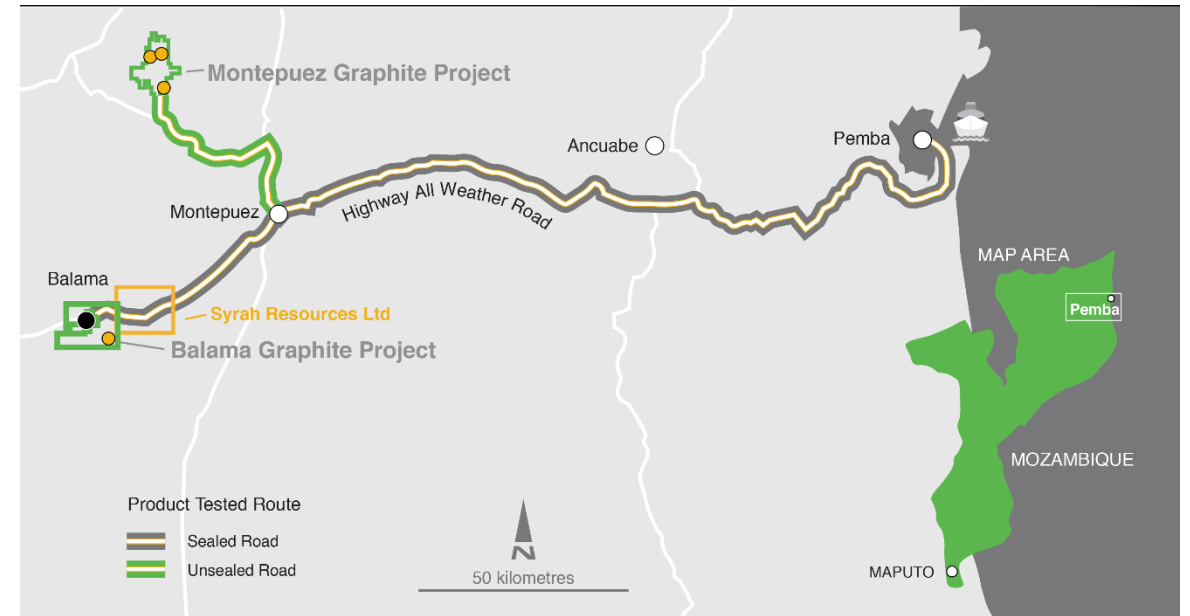


# Graphite Price Forecast - Benchmark Mineral Intelligence



# Montepuez Graphite Project - Phase 1

Montepuez Graphite Project <sup>1</sup>	(First Module)
Capex to complete	US\$39.5 M
C1 Opex (concentrate/t first 10yrs)	US\$361/t
Grade processed	11% TGC (12% for first 18yrs)
Plant Type and Scale	Modular, ~500ktpa
Projected Payback	<2 years
EBITDA per annum <sup>1</sup>	>US\$30 Mpa
Metallurgical Recovery weathered	80%
Metallurgical Recovery fresh	85%
Mine Life	+50 years
Montepuez Basket Price <sup>3</sup>	US\$1,064/t
Graphite Concentrate purity	>96% TGC
Mineral Resource <sup>2</sup>	119.6Mt at 8.1% TGC
Current Ore Reserve <sup>1</sup>	42.2Mt at 9.3% TGC



Montepuez Graphite Project - Mozambique Transport Route

- Time to first exports ~ 15 months from finance
- Origin Capital Mandated to deliver project finance, Technical DD complete, lender engagement underway
- Mining Licence granted, port allocation, offtake agreements in place. No regulatory impediments to commencing production and exports

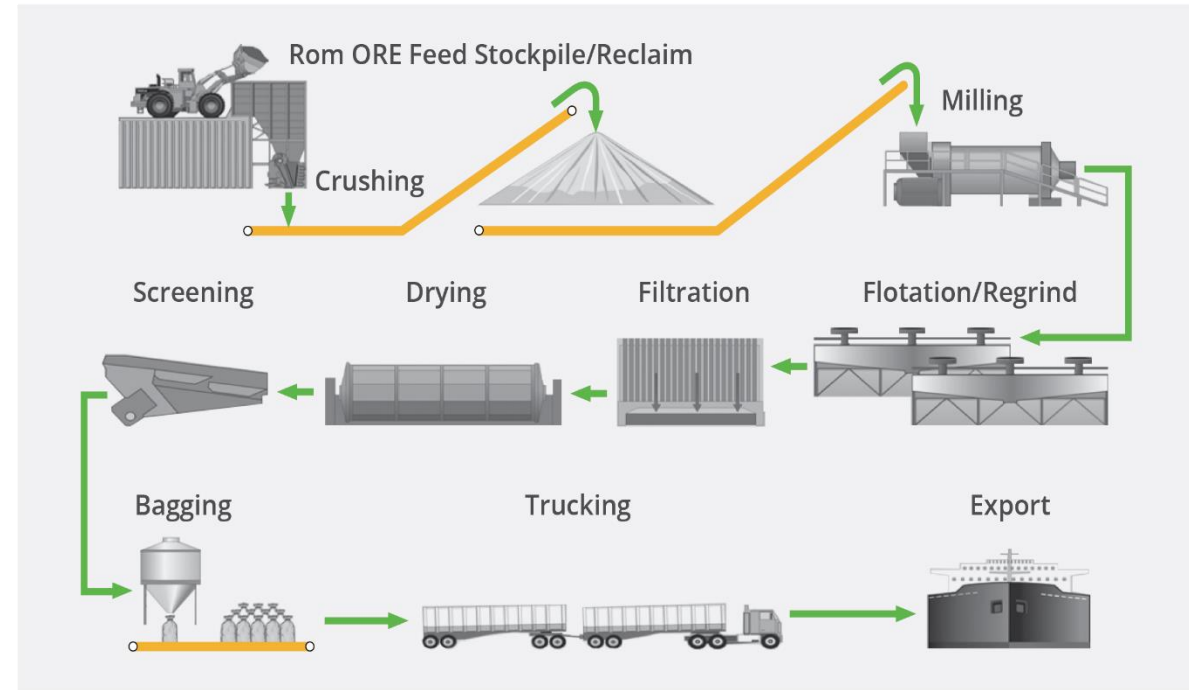
1. See ASX announcement on 4 December 2018 for "Increase in Montepuez Graphite Reserve" for detailed disclosure. Ore Reserves prepared by a competent person in accordance with the JORC Code. All material assumptions underpinning the production target in that announcement continue to apply and have not materially changed
2. See ASX announcement on 18<sup>th</sup> October 2018 for "Group Resources Update" for detailed disclosure, Mineral Resources 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
3. Based on the 31 October 2018 Benchmark Mineral Intelligence (BMI) FOB China graphite prices (spot prices), the basket price of Montepuez 96% TGC graphite concentrate is US\$1,064.63/t.

# Montepuez Graphite Project - Resources & Reserves

Montepuez Graphite Project <sup>1</sup> November 2018 Ore Reserve Estimate			
Deposit	Ore type	Ore (Mt)	TGC (%)
Buffalo	Weathered	3.58	8.31
	Fresh	16.80	10.06
	Subtotal	20.38	9.75
Elephant	Weathered	2.41	8.39
	Fresh	19.41	8.87
	Subtotal	21.82	8.82
TOTAL	Weathered	5.98	8.34
	Fresh	36.21	9.42
	<b>TOTAL</b>	<b>42.19</b>	<b>9.27</b>

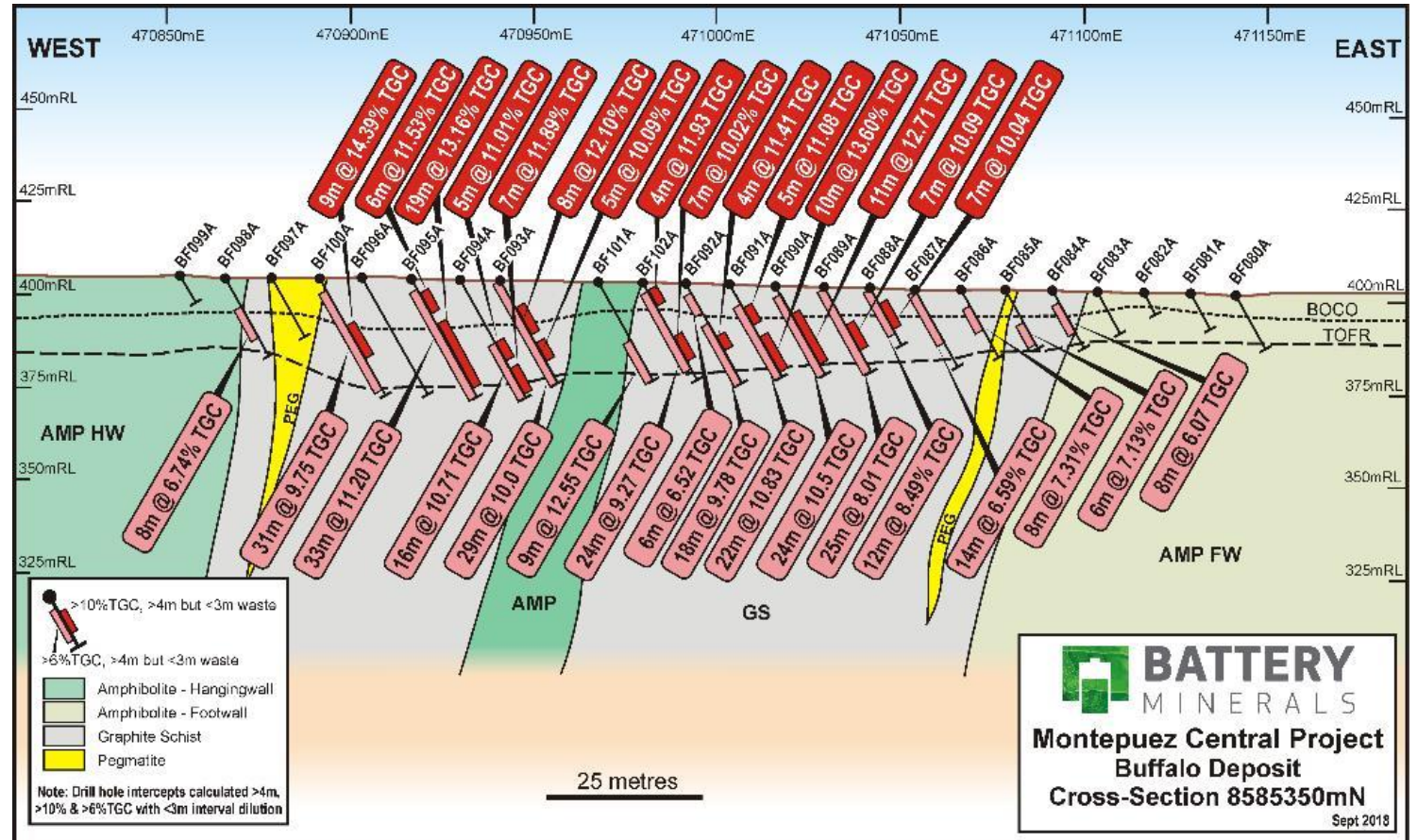
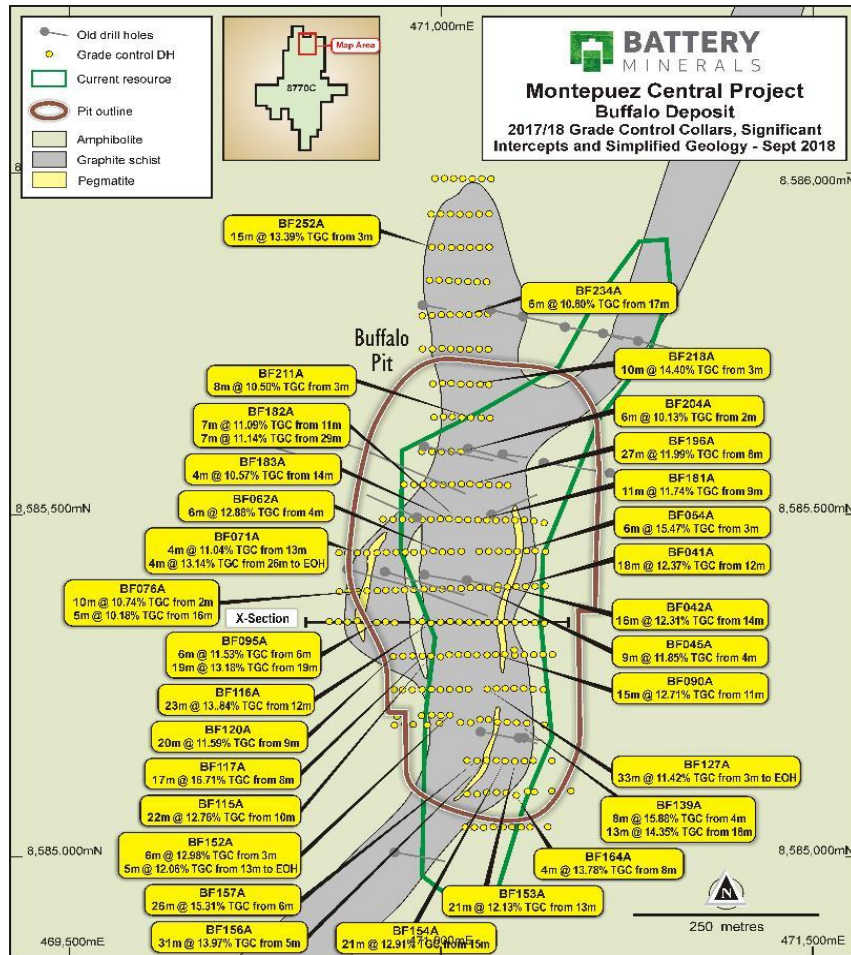
Montepuez 2018 Mineral Resource Estimate (2.5% TGC Cut-off) <sup>2</sup>			
Total Mineral Resource			
Type	Mt	% TGC	Cont. Graphite (1000 tonnes)
Weathered	10.3	7.7	790
Primary	109.2	8.1	8,870
<b>Total</b>	<b>119.6</b>	<b>8.1</b>	<b>9,660</b>



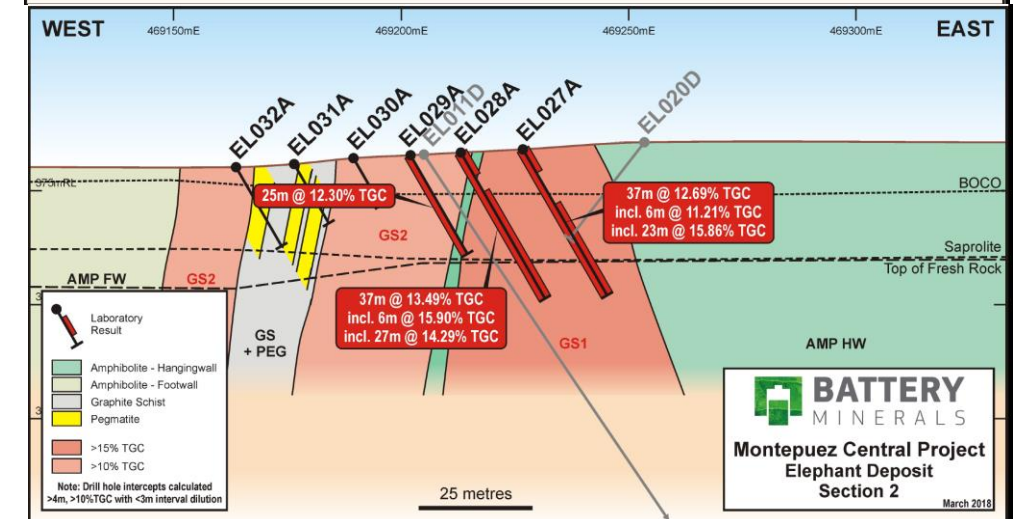
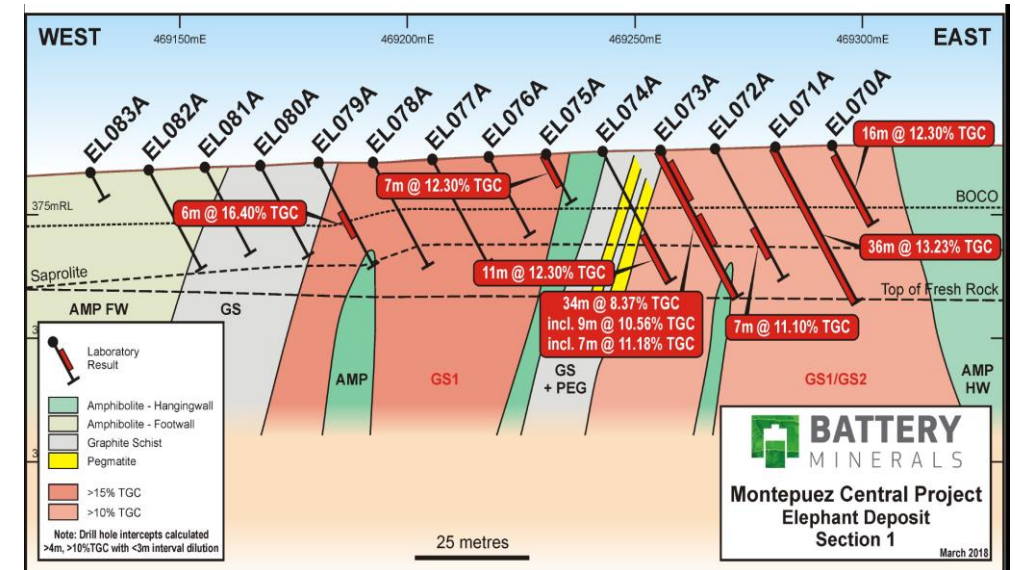
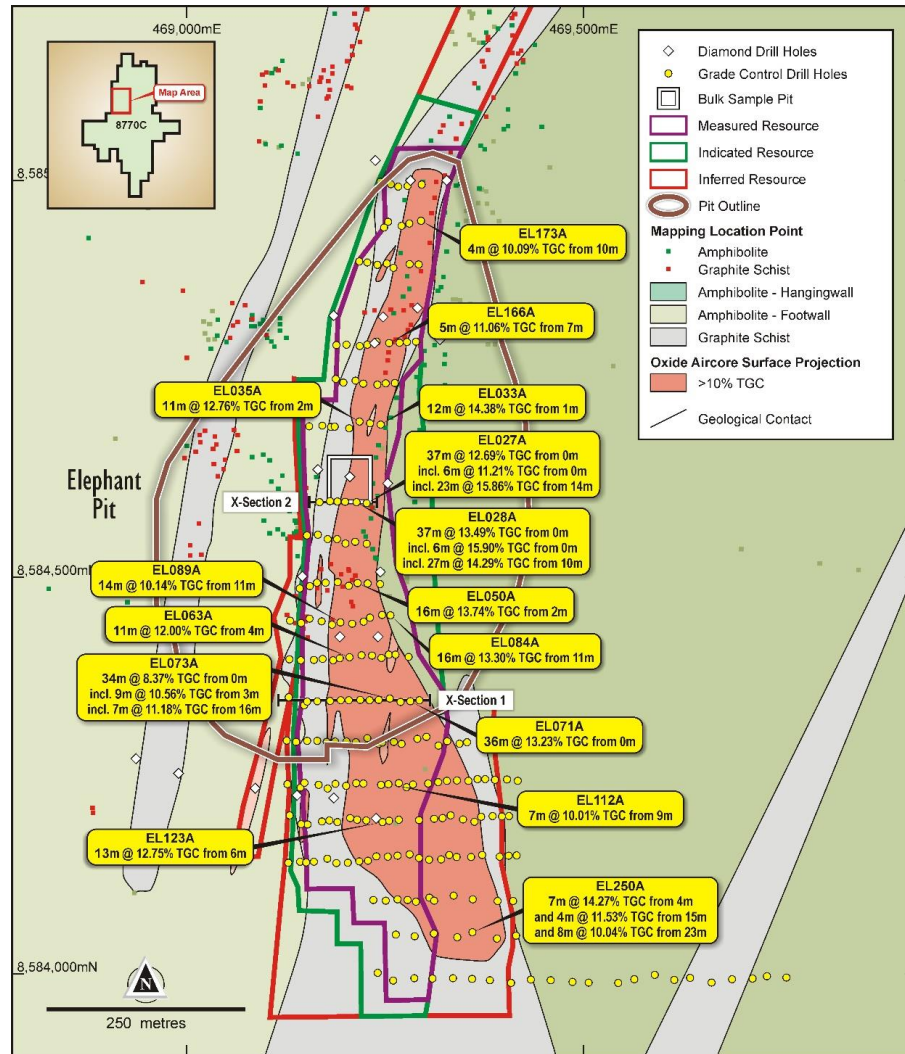
Montepuez Graphite Project - Process Flowsheet and Transport

1. See ASX announcement on 4 December 2018 for “Increase in Montepuez Graphite Reserve” for detailed disclosure. Ore Reserves 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
2. See ASX announcement on 18<sup>th</sup> October 2018 for “Group Resources Update” for detailed disclosure, Mineral Resources 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

# Buffalo Deposit - RC Grade control - complete

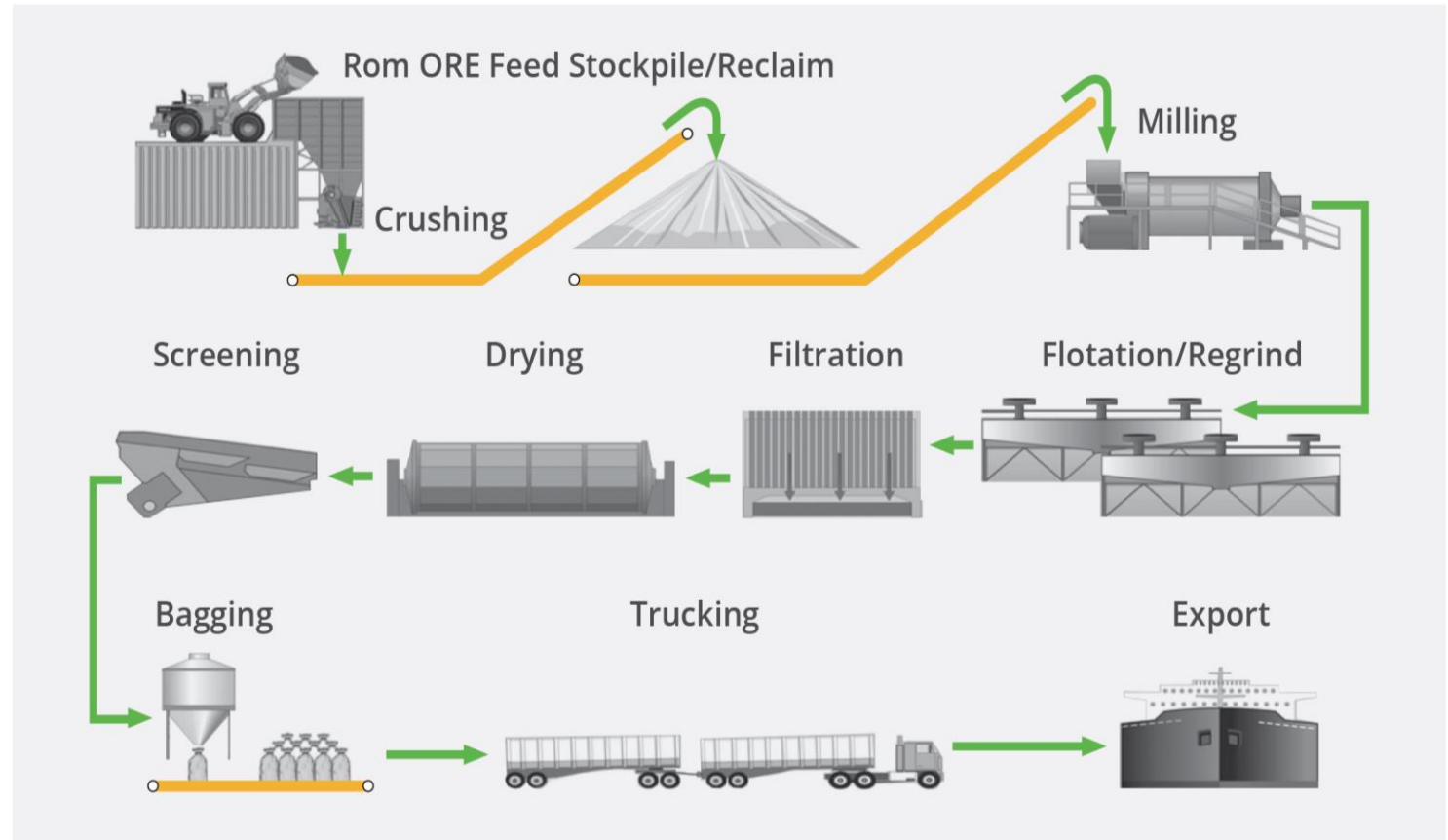


# Elephant Deposit - RC Grade control - complete

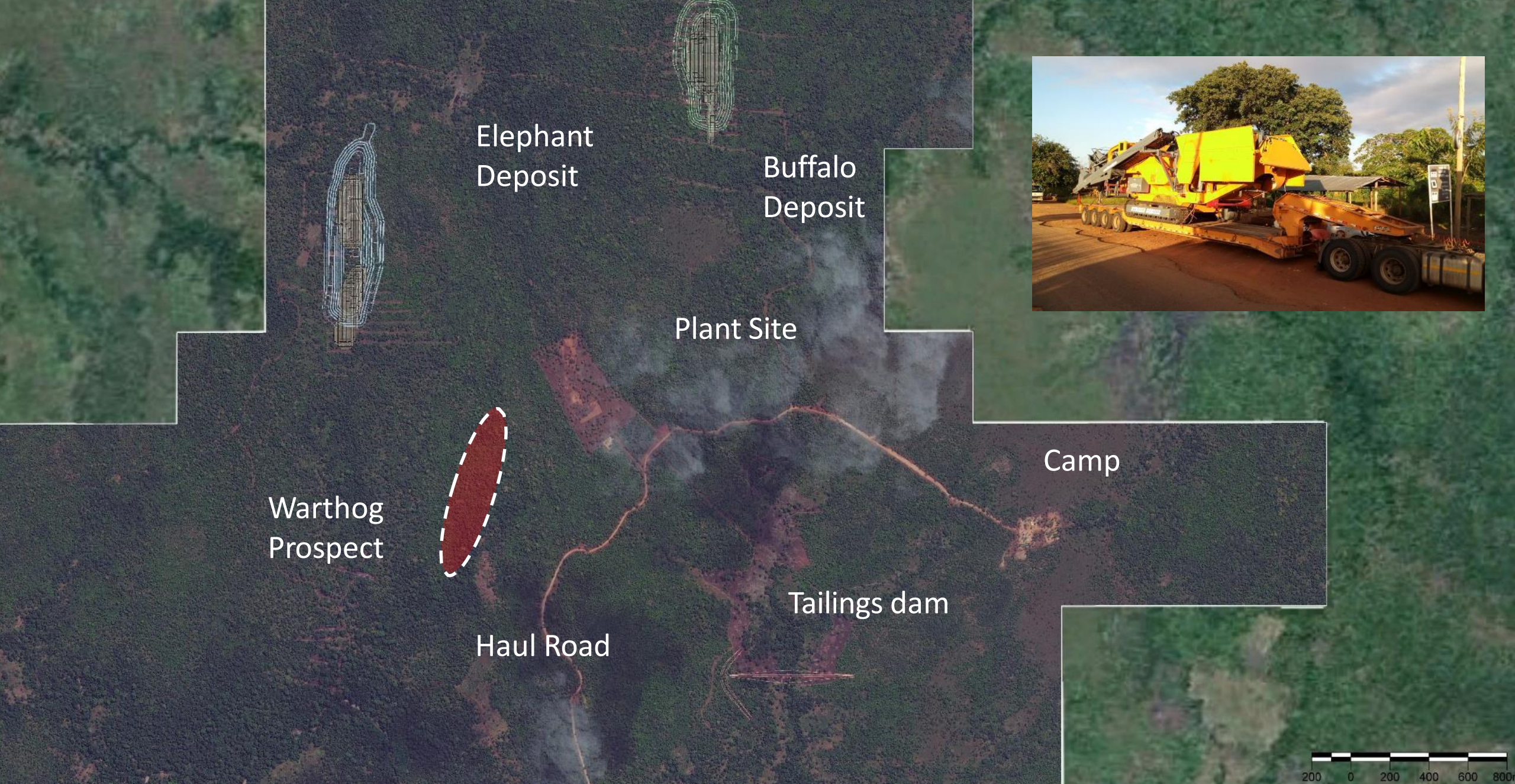


# Mine to Market Value Chain

- Metallurgical testwork completed in China at Beijing General Research Institute of Mining and Metallurgy
- Simple modular construction – easy expansion
- Flowsheet is conservative and flexible to allow for economic product optimisation
- Equipment selected is tried and tested in graphite applications
- Large number of constructors and contractors in Mozambique
- Experienced transporters located locally
- Good labour sources in Montepuez and Pemba
- Spares and technical support in nearby South Africa (2.5hr flight to Johannesburg)



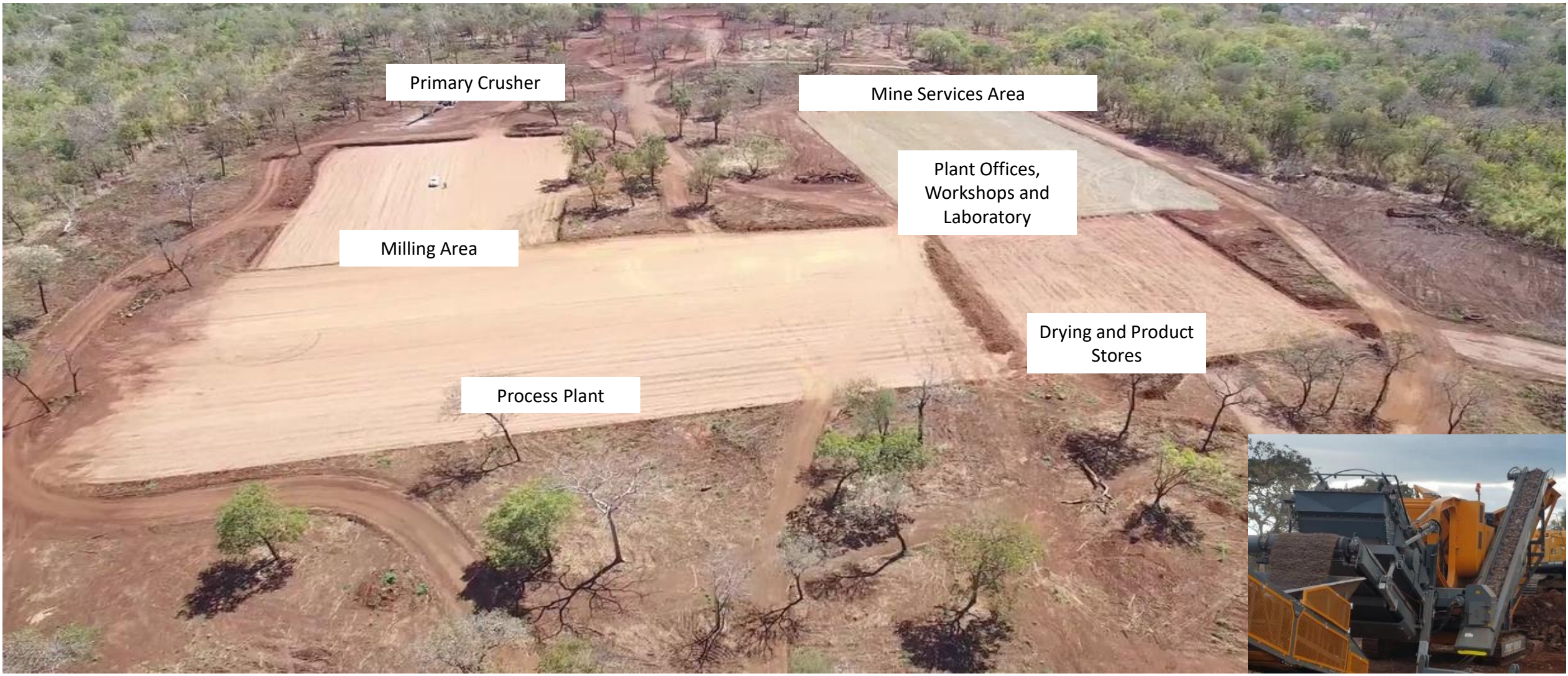
Montepuez Graphite Project - Process Flowsheet and Transport



# Tailings Storage Facility (TSF) - Wall Complete



# Plant Site Earthworks - Complete



# Construction and Operations Camp - Complete



# Pemba Port

- **Port Allocation approved:** at Pemba Port for 100,000tpa of graphite concentrate
- **Pemba Port:** 8-12m deep berthing water, capacity 3 - 4Mtpa cargo and goods
- **Vessels : Geared.** 30,000t to 40,000 vessels, Container and break bulk facilities
- **Shipping Route:** Vessel availability as required as Pemba is located on coastal shipping route between Durban and Dar es Salam
- **Port Authorities** planning expansion of capacity and security for 2020
- Currently loading 12-14 containers per hour (CPH) expanding to 20 CPH

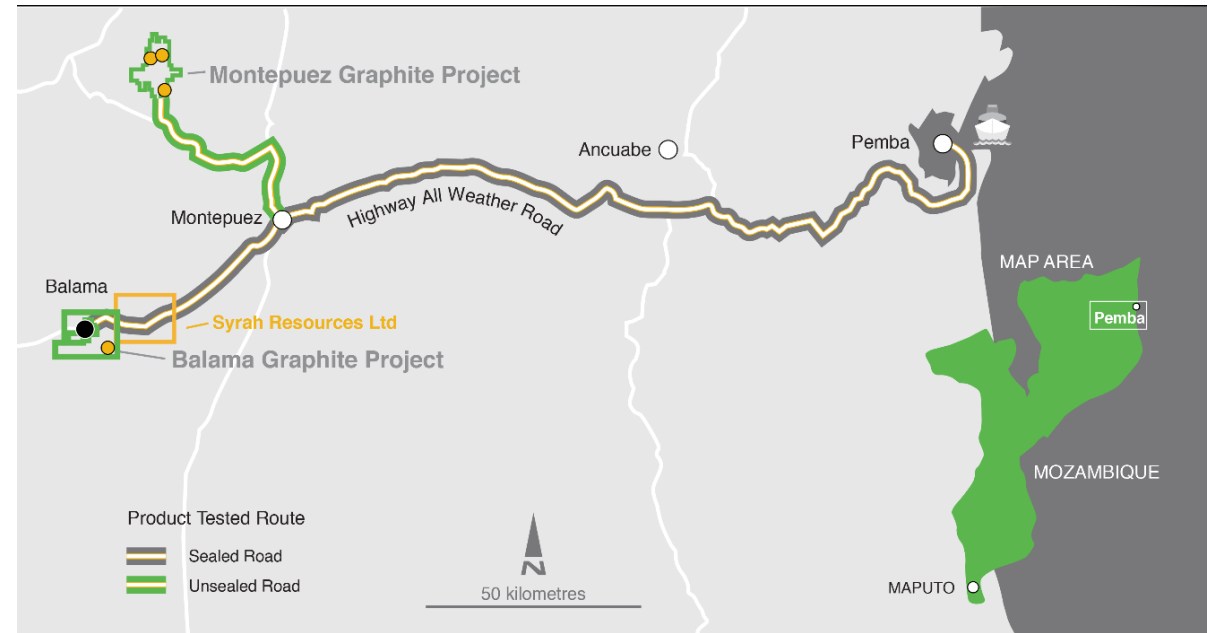


# Montepuez Project Main Camp - Complete



# Balama Central Graphite Project - Feasibility Study

Balama Central Graphite Project	Feasibility Study Dec 2018
Annual graphite production	58,000pa
Capex (pre-production)	US\$69.4 M
Opex (concentrate/t first 8 yrs)	US\$363/t
Grade Processed	12.5% TGC
Plant Type and Scale	Modular, ~550ktpa
Projected Payback	~2.3 years
Net Operating Cash Flow	>US\$30 Mpa
Metallurgical Recovery	>93%
Mine Life	+35 years
Balama Central Basket Price <sup>3</sup>	US\$1,106/t
Graphite Concentrate purity	+96% TGC
Mineral Resource <sup>2</sup>	32.9Mt at 10.2% TGC
Ore Reserves <sup>1</sup>	19.7Mt at 11.1% TGC



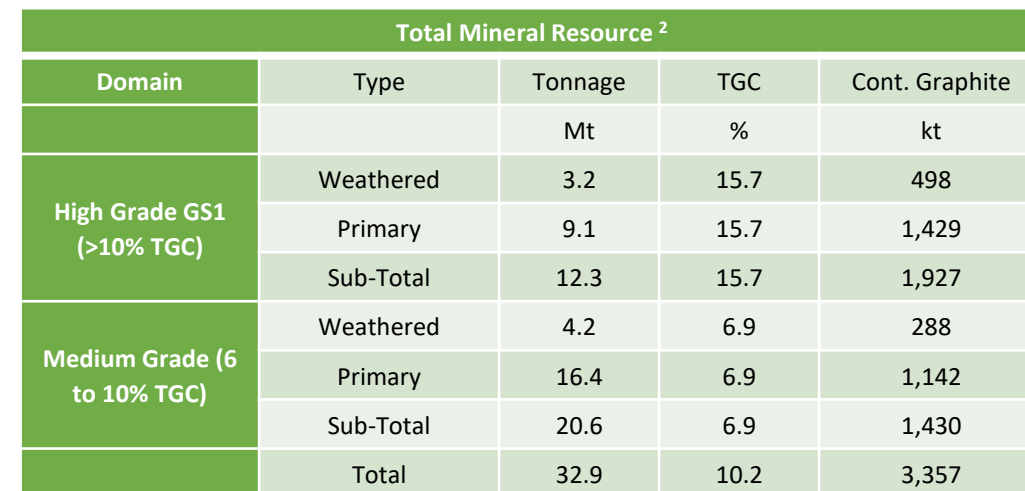
Balama Central Graphite Project - Mozambique Transport Route

- **ESIA:** Due to be completed and submitted early 2019
- **Mining License Application:** To be submitted in 2019

1. See ASX announcement on 12 December 2018 for “Maiden Reserve for Balama” for detailed disclosure. Ore Reserves 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
2. See ASX announcement on 29th March 2018 for “Mineral Resource Doubles at Balama” for detailed disclosure, Mineral Resources 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
3. Based on the latest Benchmark Mineral Intelligence (BMI) CIF China forecast graphite prices for 2022



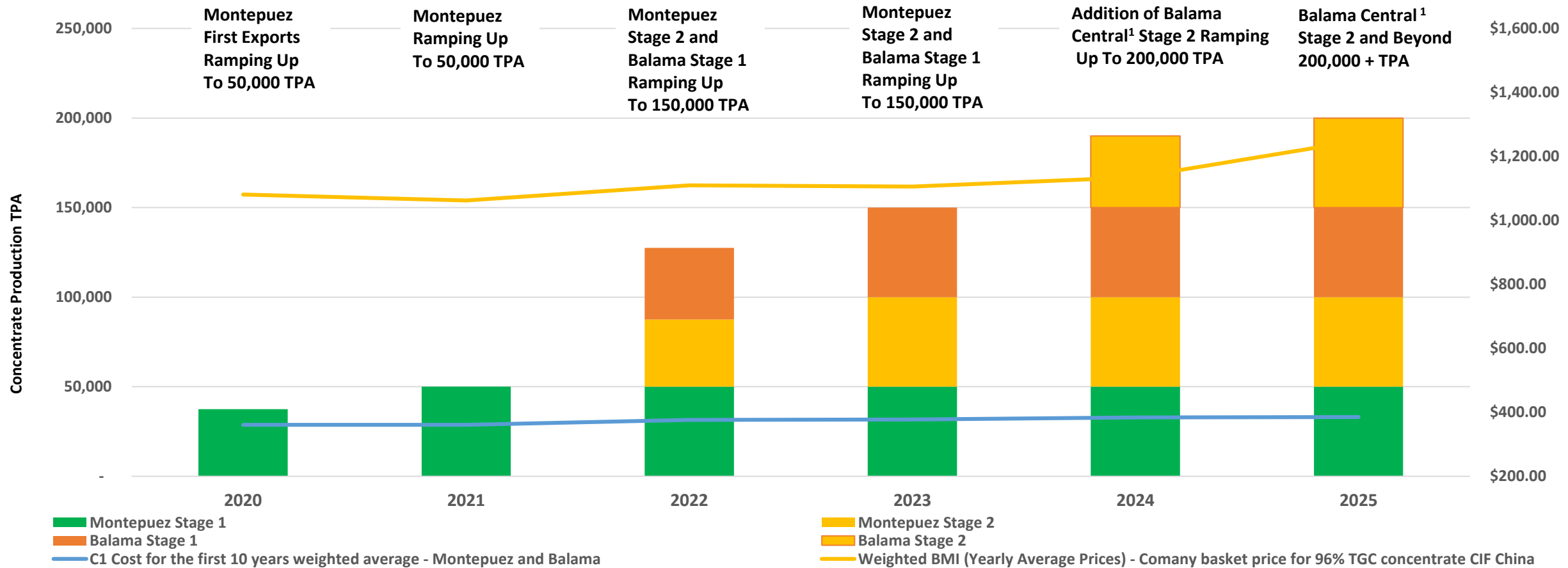
**BATTERY**  
MINERALS



Ore reserve Estimate (6% TGC cut-off grade) <sup>1</sup>			
Pit	Ore type	Ore (Mt)	TGC (%)
Lennox	Weathered	3.36	11.09
	Fresh	8.19	11.70
	Total	11.55	11.52
Byron	Weathered	2.08	10.18
	Fresh	6.02	10.49
	Total	8.11	10.41
Total	Weathered	5.44	10.74
	Fresh	14.21	11.19
	Total	19.66	11.06

1. See ASX announcement on 12 December 2018 for “Maiden Reserve for Balamá” for detailed disclosure. Reserves 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
2. See ASX announcement on 29<sup>th</sup> March 2018 for “Mineral Resource Doubles at Balamá” for detailed disclosure, Resources 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


# Battery Minerals - Production Profile



Note 1: Battery Minerals Limited completed a feasibility study and announced a maiden Ore Reserve estimate for its Balama Central Graphite Project in December 2018. The decision to invest in Stage 1 and Stage 2 of the Balama Central Graphite Project will be subject to the completion of all necessary feasibility studies, permit applications, construction, financing arrangements, port access and execution of infrastructure-related agreements.

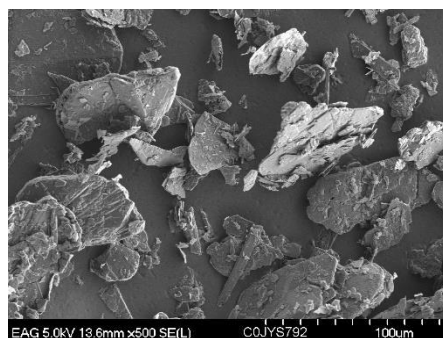
Note 2: The ramp start date for Montepuez included in this slide are subject to Montepuez project finance being finalised in H1 2019.

# Purification and Spheroidisation Testwork

- Testwork programme undertaken by 
- Progress to date
  - Purification success with Urbix environmentally friendly, low temp <80°C, non-HF, process **with no impact on flake morphology**

Sample Fraction	Initial purity, %TGC	Final Purity, %TGC
-43 micron	95.2	99.95
-150 +43 micron	97.1	99.97
+300 micron	94.3	99.95
-300 +180 micron	93.6	99.98

- Spheroidising testing complete – analysis in progress
- Programme completion – end 2018



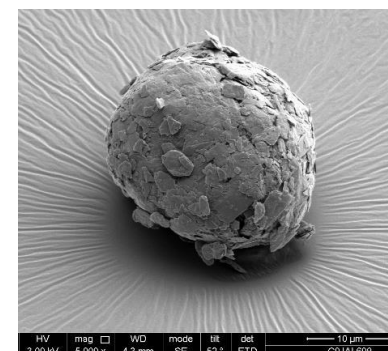
Flake Concentrate



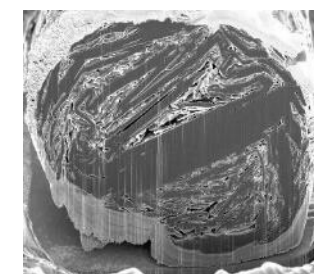
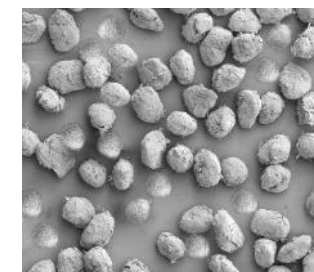
Graphite Concentrate @  $\pm 95\%$ TGC

Urbix proprietary innovative purification and spheroidisation technology

Purified Spherical Graphite @ +99.95% TGC



Spherical Graphite



Montepuez flake identified with high crystallinity, ultra low Boron content, unique flake morphology and URBIX Purification technology together opening potential new markets

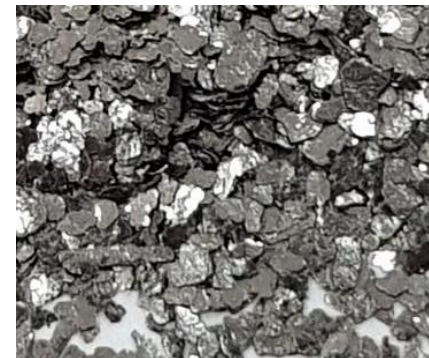
- Nuclear, Concrete, Composites, and military applications
- Montepuez flake used by URBIX in US Department of Energy
- Grant for Nuclear Grade Graphite Development
- Urbix Pilot Plant:
  - Capacity – 24,000 tpa+ Purified Flake Graphite
  - High overall recoveries +75% for PSG

# Community Engagement - on track



# Next Steps

1. Complete Montepuez project finance
2. Complete detailed engineering and procurement
3. Award remaining construction contracts
4. Urbix, Anode and other downstream Scoping Study
5. Construct process plant and remaining infrastructure
6. Start mining processing and exporting
7. Investigate Vanadium and other opportunities
8. Complete construction of Montepuez within 12 – 15 months of project finance being finalised

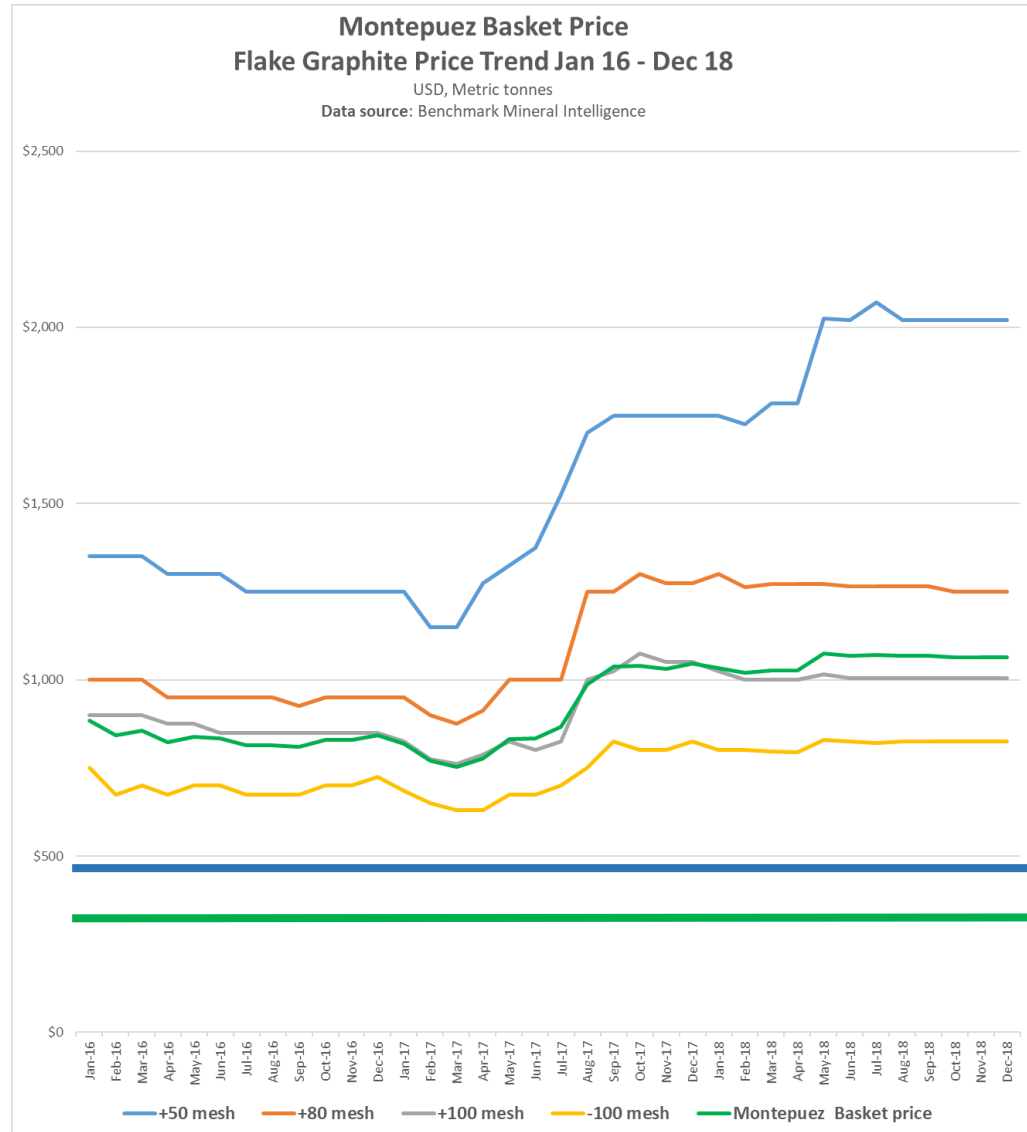


# Appendices

- Current Projects Summary
- Mineral Resources, Reserves,
- Board and Management
- Lithium ion Batteries
- Disclaimer
- Competent person statements

Element	Description
Process Engineering	“Lowest Risk” modular design philosophy. DFS + VES + Detailed engineering and advanced execute commenced. Crushing plant already on site and commissioned.
Construction	Construction has started. 100 person village constructed and commissioned. Tailings storage facility constructed. Site roads complete. Plant site earthworks complete.
Production	Mining fleet and plant design structured for conservative delivery of required tonnages. Mining rate and crushing rate achieved comfortably. Expecting lowest quartile costs.
Product Market	Pricing forecasts verified by independent market analysts. Looking to contribute 5-10% of each of the key natural graphite market segments. The company has 4 offtake agreements with groups which currently supply into each of these segments. 3 offtake customers are global top 10 graphite consumers.
Resource/Reserve	Digability resolved through trial mining. Test pit 2,500 tonnes reconciled well with reserve model. Drilled to 50 x 12.5 metre spacings for measured and indicated contributing > 42Mt Reserve. This is a conversion of 75% of the Measured and Indicated resource.
Regulatory	Granted mining Licence, All environmental approvals granted, Port capacity allocation assigned. No impediments to export and product sales
Infrastructure	Haulage route tested with 2,500 tonne bulk sample haulage to Pemba. Port allocation assigned to BAT for 100.000tpa.
CAPEX	Total Capex USD\$51.2M, USD\$13.8M already spent. Only USD\$37.4M in construction spend remaining
Mozambique	Strong mining culture, Vale, South 32, large LNG Projects USD\$140BN in different stages of execution. Strong mining law. Fiscal stability regimes. Strong international arbitration capabilities. Mining Agreement opportunities available to projects over USD\$5M. Currently in progress.
Growth	High confidence capital and operating estimate to expand production to 100ktpa for ~USD\$35M.
Downstream	Company has a spherical plant in USA in JV since 2016. 3 years of purification and spheronisation/spheroidisation testwork completed to date. Identified several non HF toxic acid purification techniques available to the company in addition to completing a PreFeasibility study on production of purified and coated spherical graphite as a standalone operation in Reno Nevada USA. Testwork is mature.
Community and Environment	Independent auditors have verified the project would comply with an audit against United Nations Equator principles as they relate to community and environment. This is a significant achievement for our company.

# BMI - Montepuez Basket Price Jan 16 to Dec 18



## Montepuez Graphite Project

- Higher Fines flake product
- Robust basket price of circa US\$1,064/t<sup>1</sup>

### 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	57.0%	96.0%
Medium	+100 Mesh	+150 -180	11.3%	96.0%
Large	+80 Mesh	+180 -300	20.7%	96.0%
Jumbo	+50 Mesh	+300	11.0%	96.0%

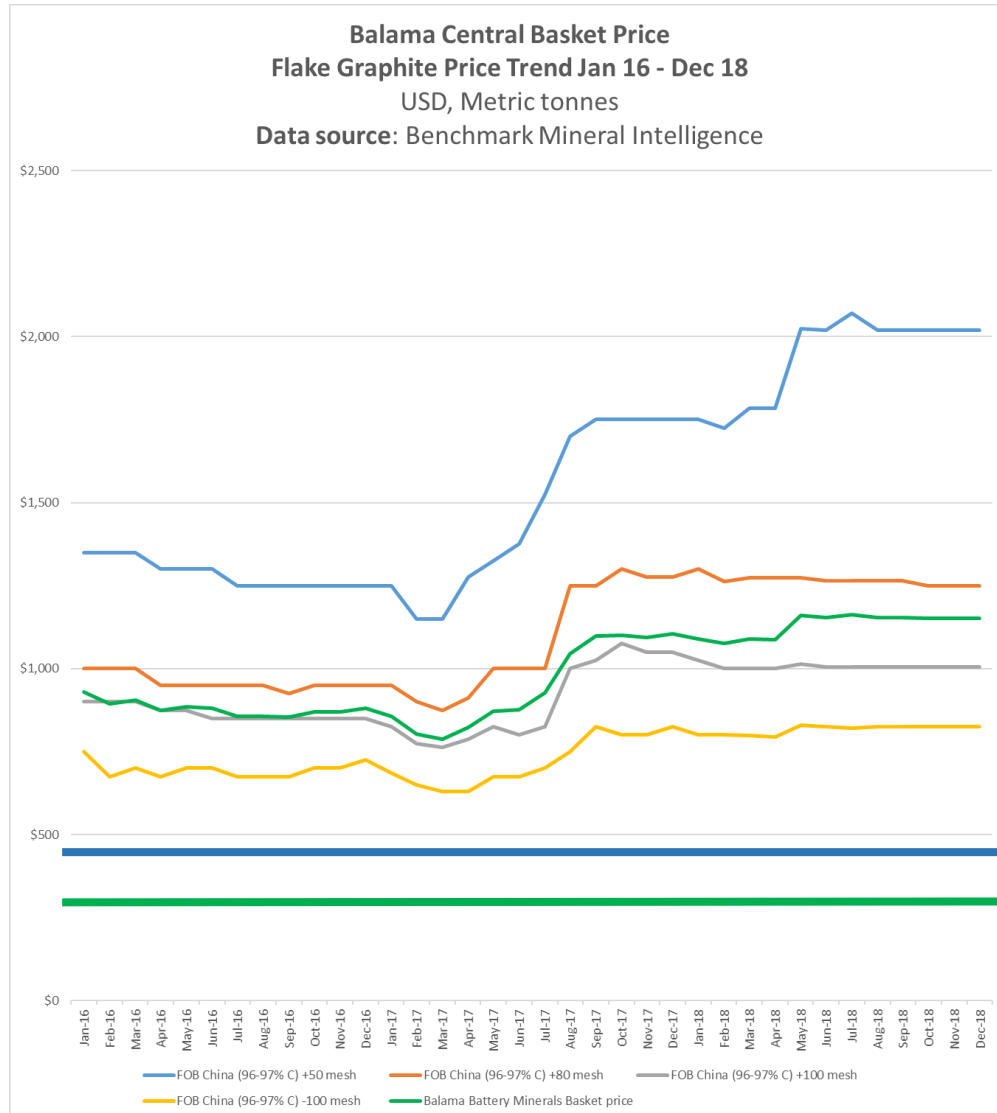
Battery Minerals (Montepuez) delivered cost for first ten years of US\$461 cost per tonne cif China

Battery Minerals (Montepuez) Opex cost for first ten years of US\$361 per tonne FOB Pemba

1. Based on the 31 October 2018 Benchmark Mineral Intelligence (BMI) FOB China graphite prices (spot prices), the basket price of Montepuez 96% TGC graphite concentrate is US\$1,064.63/t.

Element	Description
Process Engineering	“Lowest Risk” modular design philosophy. Concept Study, Scoping Study, Feasibility Study complete.
Production	Mining fleet and plant design structured for conservative delivery of required tonnages.
Project	58ktpa, XXX/t OPEX, XXX/t current basket price,
Product Market	Pricing forecasts verified by independent market analysts. Exports not earlier than Q1 2021.
Resource/Reserve	High quality resource and reserve estimation completed by independent consultants with benefit of real estimates and technical data from
Regulatory	Mining licence application expected for submission in early 2019.
Construction	Construction is yet to commence but will incorporate learnings from the Montepuez project.
Infrastructure	Haulage route tested with 2,500 tonne bulk sample haulage to Pemba. We have provided an expression of interest for a supporting port allocation and will advance these discussions more formally in 2019.
Mozambique	Strong mining culture, Vale, South 32, large LNG Projects USD\$140BN in different stages of execution. Strong mining law. Fiscal stability regimes. Strong international arbitration capabilities. Mining Agreement opportunities available to projects over USD\$5M. Negotiation is yet to commence but we expect to be able to benefit from precedents set as part of the Montepuez Mining Agreement
Growth	High confidence capital and operating estimate to expand production to 100ktpa.
Downstream	Opportunities will be examined in due course. Balama specific anode material production test work is currently only at a high level.
Vanadium	The Graphite resource at Balama contains vanadium. Currently 4-6,000 tpa of vanadium is discharged to the tailings dam as a by product of the graphite concentration process. The company is evaluating production and sale of an upgraded vanadium concentrate. The current vanadium price is >USD\$50,000/t
Community and Environment	The company is continuing to collect data and engage with local communities consistent with industry best practice. Environmental Impact Assessment due for completion in December 2018

# BMI - Balama Central Basket Price Jan 16 to Dec 18



## Balama Central Graphite Project

- Higher Jumbo and Large flake product
- Higher basket price of circa US\$1,106/t<sup>1</sup>

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

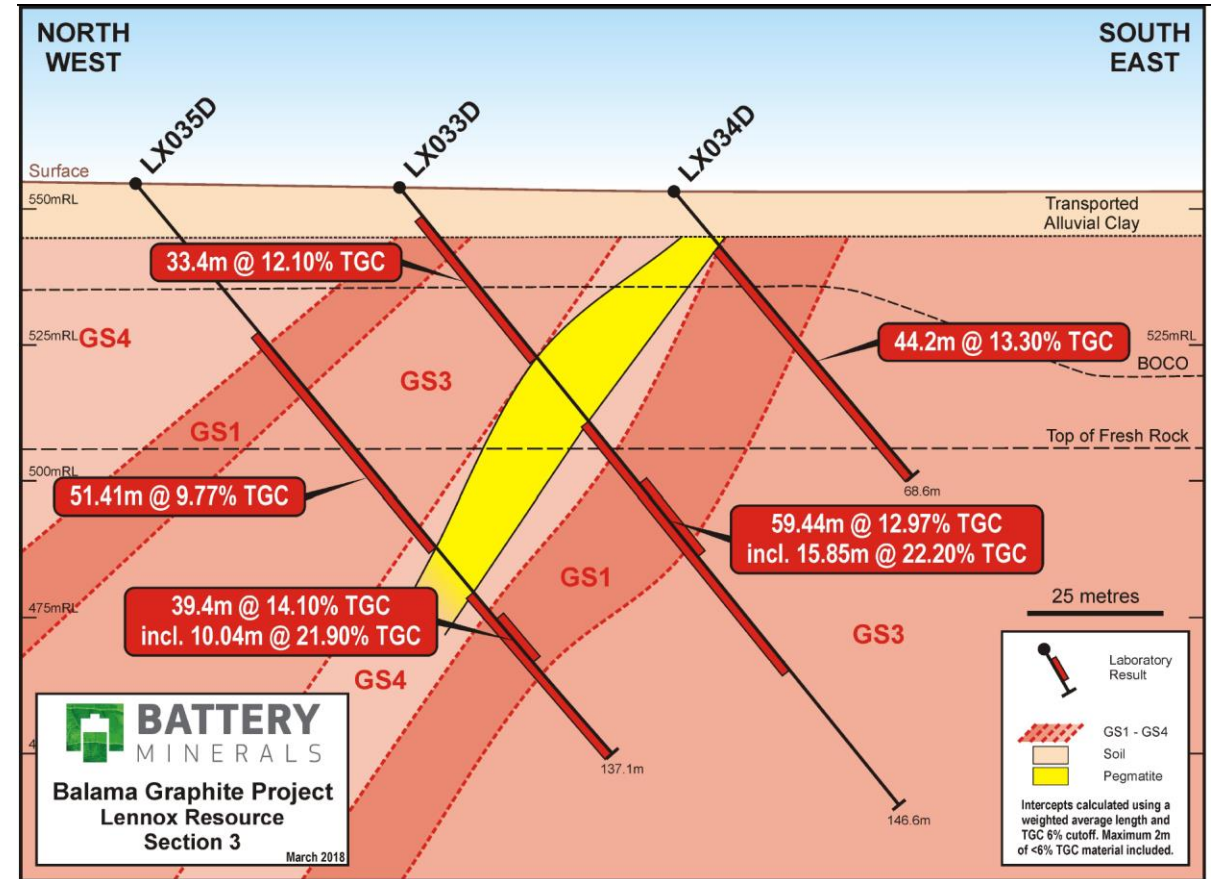
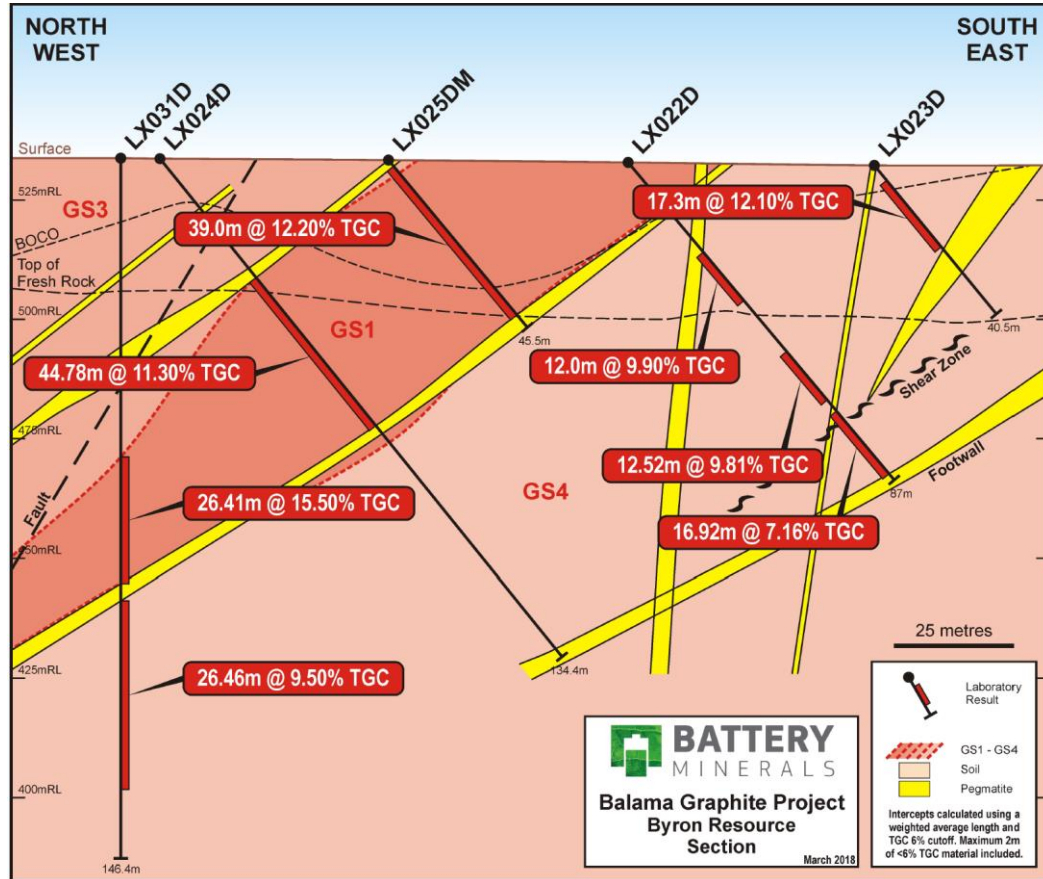
Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	49.4%	96.0%
Medium	+100 Mesh	+150 -180	22.1%	96.0%
Large	+80 Mesh	+180 -300	6.8%	96.0%
Jumbo	+50 Mesh	+300	21.6%	96.0%

Battery Minerals (Balama Central) delivered cost for first eight years of US\$463 cost per tonne cif China

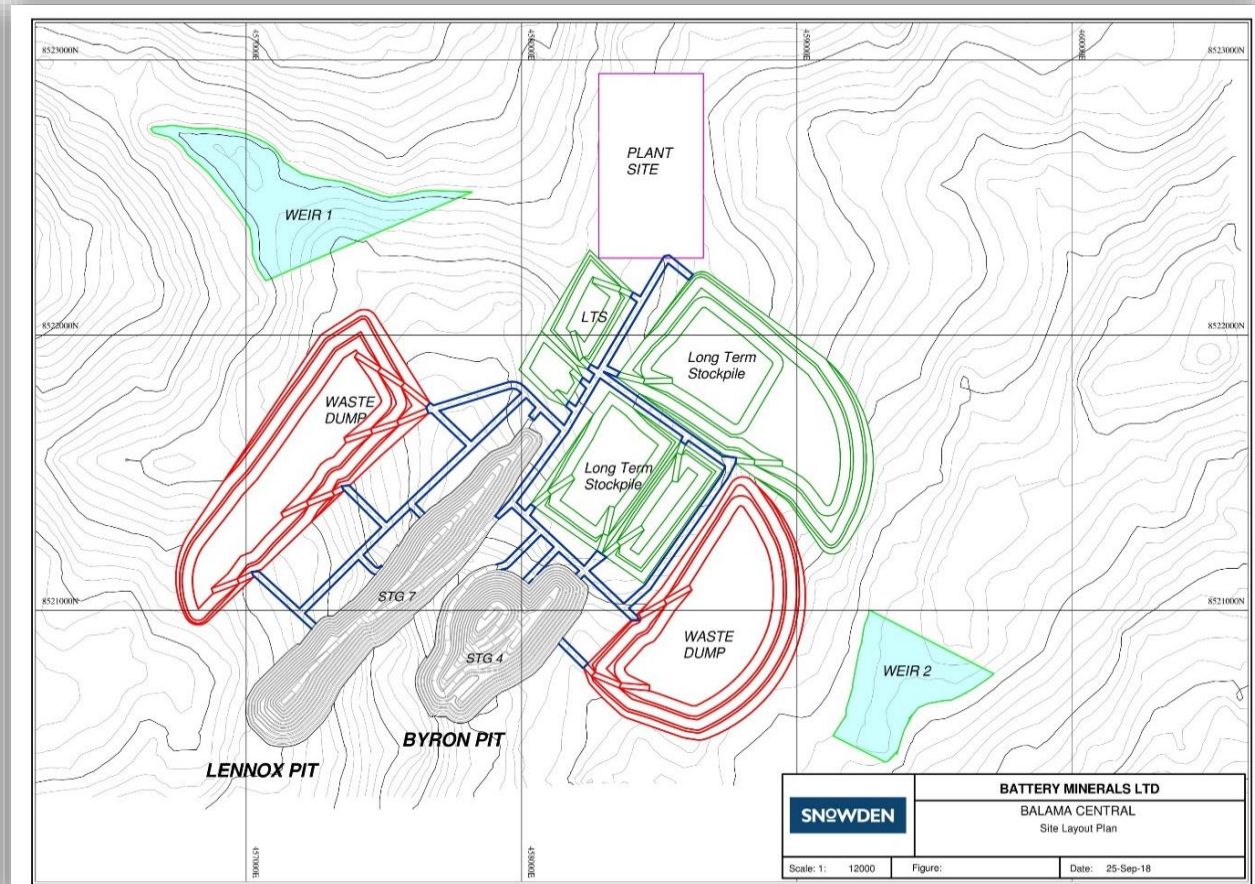
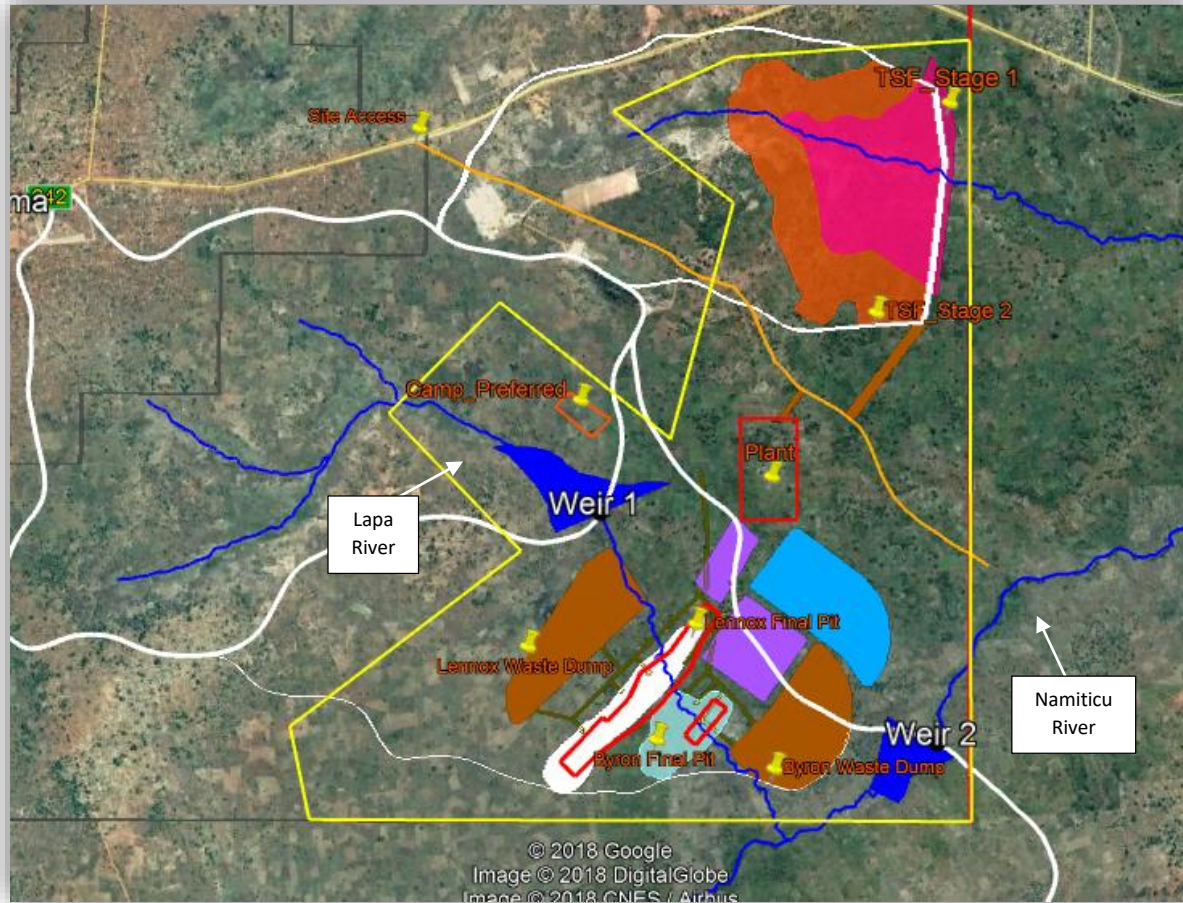
Battery Minerals (Balama Central) Opex cost for first eight years of US\$363 per tonne FOB Pemba

1. Based on the latest BMI CIF China graphite prices for 8 years starting 2022, the forecast basket price of Balama Central 96% TGC graphite concentrate in 2022 is \$1,106/t for the weathered material and \$1,275/t for fresh material.

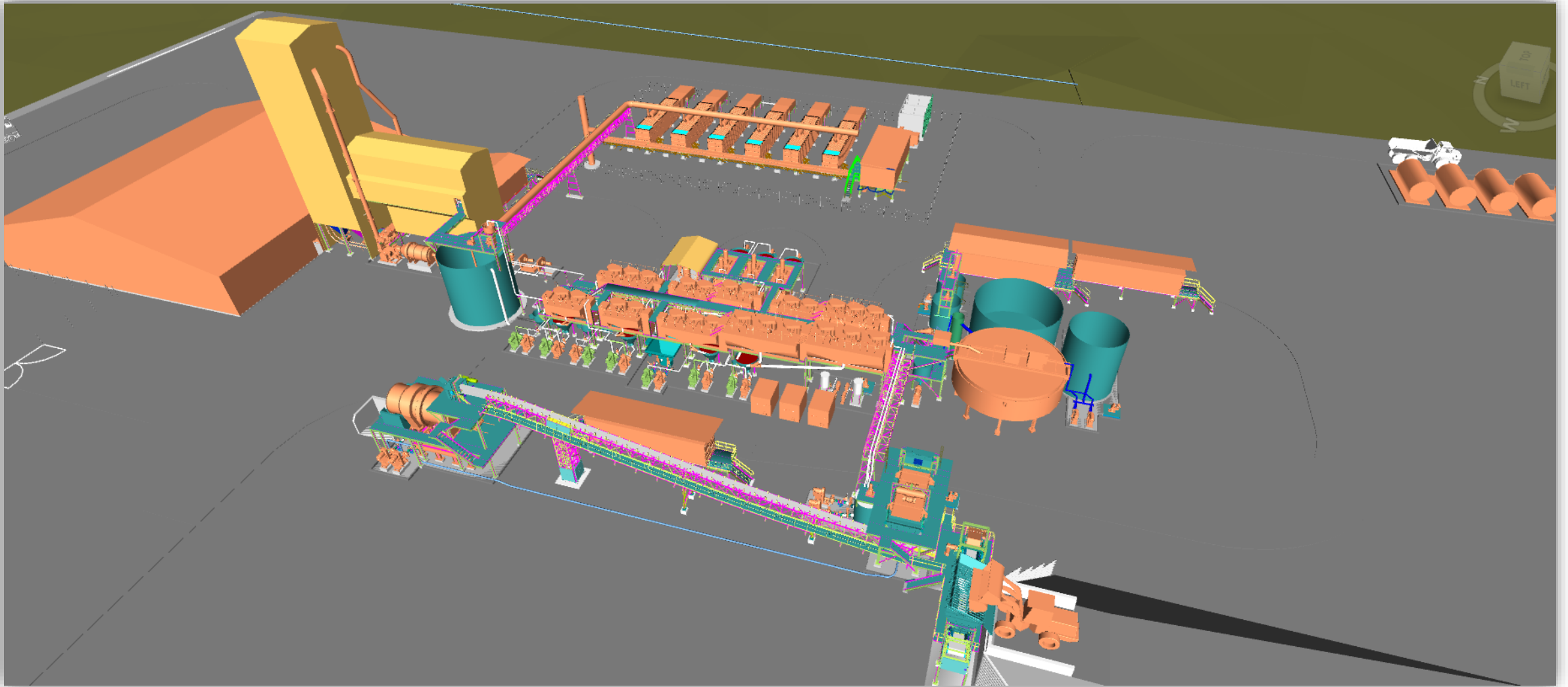
# Balama Central Deposit



# Balama Feasibility Site Layout



# Balama Central Project Site Layout



# Offtake with Key Graphite Processors in China & USA

Group	Term / Amount	Description	Comments
Qingdao Guangxing Electronic Materials Co. Ltd	3 years 10ktpa	One of China's largest graphite groups Researches & develops, manufactures and sells graphite products including spherical graphite, flake graphite and powdered graphite.	Annual production: <ul style="list-style-type: none"> <li>Raw material production: 70ktpa;</li> <li>Purified graphite production: 12ktpa;</li> <li>Processed graphite production: 40ktpa;</li> <li>Investment in 2017 to introduce additional capacity of 30ktpa for flake graphite, 6ktpa tonnes for spherical graphite and 6ktpa of powdered graphite.</li> </ul>
Qingdao Black Dragon Graphite Co. Ltd	3 years 10ktpa	One of China's largest consolidated graphite companies five wholly owned or JV subsidiaries. Aggregately, the group operates 3 mining permits, 1 exploration permit, 2 diversified graphite plants, 2 graphite sheet plants and 1 flake graphite plant.	Annual production: <ul style="list-style-type: none"> <li>Flake graphite: 60ktpa;</li> <li>Spherical graphite: 2.4ktpa</li> </ul>
Qingdao Keshuo New Materials Technology Co. Ltd	3 years 10ktpa	Private Chinese processor of graphite for the anode market associated with Qingdao Taihelong New Energy Materials Co. Ltd (Taihelong), a spherical graphite manufacturer.	Taihelong's annual spherical graphite production is 6ktpa.
Urbix Resources	3 years and option for +3 years 5ktpa and option for +6ktpa	One of the largest natural graphite providers in the USA. Specializes in all aspects of the graphite value chain. Premier provider of graphite ore, refined graphite powders, graphene, and other advanced graphite products.	

# Project Summary

Project	Description	Status
Montepuez Graphite Project stage 1 50,000tpa, planning for expansion to 100,000tpa (stage 2)	<ul style="list-style-type: none"> <li>Produce 50,000tpa @ &gt;96% TGC</li> <li>BMI Basket price FOB Moz &gt;USD\$1106/t</li> <li>OPEX cost FOB Moz USD \$361/t for first ten years</li> <li>CAPEX remaining @ Jan 1, 2019 USD \$39.5M</li> <li>Target mine life +30 years at 12% TGC run of mine grade</li> </ul>	<ul style="list-style-type: none"> <li>DFS, VES, Detailed eng. , Camp, Roads and plant site CPL Oct 2018</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 100,000tpa	<ul style="list-style-type: none"> <li>Produce 50-55,000tpa @ &gt;96% TGC</li> <li>BMI Basket price FOB Moz &gt;USD \$1106/t</li> <li>Feasibility Study Dec 2018 (SS) OPEX cost FOB Moz USD \$363/t</li> <li>FS CAPEX ~ USD \$50M</li> <li>FS Expansion CAPEX USD \$35M</li> <li>Feasibility Study completed in December 2018</li> </ul>	<ul style="list-style-type: none"> <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>
Downstream Graphite Processing	MOU with URBIX and work programme now well advanced on demonstrating viability of low cost, production of purified spherical graphite (PSG)	<ul style="list-style-type: none"> <li>Results due in December Quarter 2018</li> </ul>
Exploration	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.	<ul style="list-style-type: none"> <li>Results are due in December 2018</li> <li>New resource estimates are also pending for Montepuez</li> </ul>
Vanadium Opportunity	Current Graphite resources contain vanadium. The vanadium entirely reports to the tailings and presents a commercial opportunity. 98% V2O5 current price USD >\$20/lb	<ul style="list-style-type: none"> <li>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</li> <li>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.</li> </ul>

# Montepuez CAPEX

Area	Total Capex USD\$	Spent to Date USD\$	Remaining Capex USD\$
<b>Process Plant and Power</b>	28,129,000	4,160,000	23,969,000
<b>Mining Equipment and Light Vehicles</b>	4,378,000	72,000	4,306,000
<b>Camp infrastructure and fit-out</b>	3,108,000	3,108,000	0
<b>Earthworks, Tailings Storage Facility and Water Storage</b>	3,834,000	3,491,000	343,000
<b>Buildings, officers and workshops</b>	1,814,000	62,300	1,751,700
<b>Owners costs</b>	4,747,000	1,772,000	2,975,000
<b>Pre-production Costs</b>	4,926,000	47,000	4,879,000
<b>Freight</b>	1,672,000	389,000	1,283,000
<b>Total</b>	<b>52,608,000</b>	<b>13,101,300</b>	<b>39,506,700</b>

# Montepuez - Flake Graphite Concentrate Sizing

Montepuez – LOM Flake Graphite Concentrate Sizing				
Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
<b>Fine</b>	-100 Mesh	0 - 150	57.1%	96%
<b>Medium</b>	+100 Mesh	+150 -180	11.3%	96%
<b>Large</b>	+80 Mesh	+180 -300	20.7%	96%
<b>Jumbo</b>	+50 Mesh	+300	11.0%	96%

# Montepuez - Ore Reserve Estimate

## Montepuez Graphite Project - November 2018 Ore Reserve Estimate

Deposit	Ore type	Class	Ore (Mt)	TGC (%)
<b>Buffalo</b>	Weathered	Probable	3.58	8.31
	Fresh	Probable	16.80	10.06
	Subtotal	Probable	20.38	9.75
<b>Elephant</b>	Weathered	Probable	2.41	8.39
	Fresh	Probable	19.41	8.87
	Subtotal	Probable	21.82	8.82
<b>TOTAL</b>	Weathered	Probable	5.98	8.34
	Fresh	Probable	36.21	9.42
	<b>TOTAL</b>	<b>Probable</b>	<b>42.19</b>	<b>9.27</b>

Notes:

- The Ore Reserve estimate was compiled under the supervision of Mr Jon Hudson who is an employee of Snowden Mining Industry Consultants and a Fellow of the South African Institute of Mining And Metallurgy. Mr Hudson has sufficient experience 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.
- The Ore Reserve was estimated above a cut-off of 3.4% TGC for weathered and 4.3% TGC for fresh.
- All Ore Reserve tonnes have been rounded to the nearest 10,000 tonnes and grade to the nearest 0.01.
- The Ore Reserve estimate includes small amounts of Inferred material in the form of mining edge dilution.

# Balama Central CAPEX

BALAMA CENTRAL CAPEX	US\$
Process Plant	20,893,575
Non-Process Infrastructure	7,709,246
Mining	8,171,160
EPCM	3,200,000
Owner's Costs	9,221,324
RAP	4,132,600
Non-Mining Mobile Fleet	1,939,648
TSF and Bulk Water Storage	6,838,080
Freight	1,786,170
Contingency	4,126,083
Owner's Contingency	1,408,000
<b>TOTAL</b>	<b>69,425,887</b>

# Balama Central - Opex Weathered

## Summary of Weathered Ore Operating Ct Estimate

Category	Opex		Proportion of Total Opex
	US\$/y	US\$/t product	
Labour	3, 260,031	56.09	14.6%
Power	4,581,540	78.82	20.6%
Reagents & Consumables	4,051,021	69.69	18.2%
Maintenance Materials	615,404	10.59	2.8%
G&A	2,349,312	40.72	10.6%
Product Logistics	3,914,138	67.34	17.6%
Mining & Earthworks	3,490,476	60.05	15.7%
<b>Total</b>	<b>22,261,921</b>	<b>383.00</b>	<b>100.0%</b>

### Notes:

1) Above table excludes Government Royalties.

2) Above table based on average blended ore of 50,000 tpa TGC production rate and ~1.4Mtpa mined and process run of mine (ROM) ore at an average rate of ~500,000tpa at 12% TGC

# Balama Central - Opex Fresh

Category	Opex		Proportion of Total Opex
	US\$/y	US\$/t product	
Labour	3,260,031	56.09	12.8%
Power	4,581,540	78.82	18.0%
Reagents & Consumables	4,051,021	69.69	15.9%
Maintenance Materials	615,404	10.59	2.4%
G&A	2,349,312	40.72	9.2%
Product Logistics	3,914,138	67.34	15.4%
Mining & Earthworks	5,743,365	115.48	26.3%
<b>Total</b>	<b>24,514,810</b>	<b>438.42</b>	<b>100.0%</b>

Notes:

1) Above table excludes Government Royalties.

2) Above table based on average blended ore of 50,000 tpa TGC production rate and ~1.4Mtpa mined and process run of mine (ROM) ore at an average rate of ~500,000tpa at 12% TGC

# Balama Central - Flake Graphite Concentrate Sizing

Product Description	Size Fraction	Weathered	Fresh
Jumbo	+300 µm	9.5%	26.0
Coarse	+180 µm	5.3%	7.4
Medium	+150 µm	22.5%	22.0
Fines	-150 µm	62.7%	44.62

# Balama Central Project Reserves

Probable Ore Reserve Estimate (6% TGC cut-off grade)			
Pit	Ore type	Ore (Mt)	TGC (%)
Lennox	Weathered	3.36	11.09
	Fresh	8.19	11.70
	Total	11.55	11.52
Byron	Weathered	2.08	10.18
	Fresh	6.02	10.49
	Total	8.11	10.41
Total	Weathered	5.44	10.74
	Fresh	14.21	11.19
	<b>Total</b>	<b>19.66</b>	<b>11.06</b>

# Balama Central Project Resources

Total Mineral Resource				
Domain	Type	Tonnage	TGC	Cont. Graphite
		Mt	%	kt
High Grade GS1 (>10% TGC)	Weathered	3.2	15.7	498
	Primary	9.1	15.7	1,429
	Sub-Total	12.3	15.7	1,927
Medium Grade (6 to 10% TGC)	Weathered	4.2	6.9	288
	Primary	16.4	6.9	1,142
	Sub-Total	20.6	6.9	1,430
	<b>Total</b>	<b>32.9</b>	<b>10.2</b>	<b>3,357</b>

# Group Mineral Resource Statement

Total Mineral Resource As of October 2018 for the Montepuez and Balama Central Projects is **152.6Mt @ 8.5% TGC for 13.03Mt** of graphite reported at a 2.5% and 6% TGC cut-off respectively.

Battery Minerals Group Mineral Resource Estimate <sup>1</sup> (2.5% - Montepuez, 6% - Balama TGC Cut-off)				
Project	Deposit	Group Total Mineral Resource		
		Tonnes	TGC	Cont. Graphite
		Mt	%	kt
Montepuez	Elephant	76.9	7.3	5,620
	Buffalo	42.6	9.5	4,050
Balama Central	Lennox	21.9	10.2	2,230
	Byron	11.0	10.2	1,120
<b>Total</b>		<b>152.5</b>	<b>8.5</b>	<b>13,030</b>

1. Note: See ASX Announcements dated 18<sup>th</sup> October 2018 entitled *Group Resources Update* for full details and CP signoffs.<sup>1</sup>

# UBS on Graphite Supply Deficit by 2022

		2016	2017	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Supply											
Total Flake Mine Supply	:ktpa	629	655	738	802	849	925	1000	1085	1185	1435
Growth	:%	5.5%	4.0%	12.8%	8.7%	5.9%	9.0%	8.1%	8.5%	9.2%	21.1%
Demand											
Demand Drivers											
EAF Steel Production Growth	:%	-1.6%	4.0%	3.2%	2.8%	1.3%	1.4%	0.0%	0.0%	0.0%	0.0%
BF Steel Production Growth	:%	2.2%	4.6%	0.6%	-0.1%	0.1%	-0.4%	0.0%	0.0%	0.0%	0.0%
Total Steel Production Growth	:%	1.1%	4.3%	1.2%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Battery Use Growth	:%	9.7%	20.5%	14.0%	16.4%	19.3%	26.7%	31.9%	35.4%	38.9%	40.6%
Global GDP Growth	:%	3.1%	3.6%	3.7%							
Natural Flake	:ktpa	629	689	723	762	815	896	1,016	1,191	1,449	1,820
Growth	:%	5.6%	9.4%	5.0%	5.5%	6.9%	9.9%	13.5%	17.2%	21.6%	25.6%
						Deficit -34kt	Surplus +29kt	Surplus +16kt	Deficit -106kt	Deficit -263kt	Deficit -385kt

# UBS Top Commodity Picks - 27 September 2018

## UBS top commodity picks

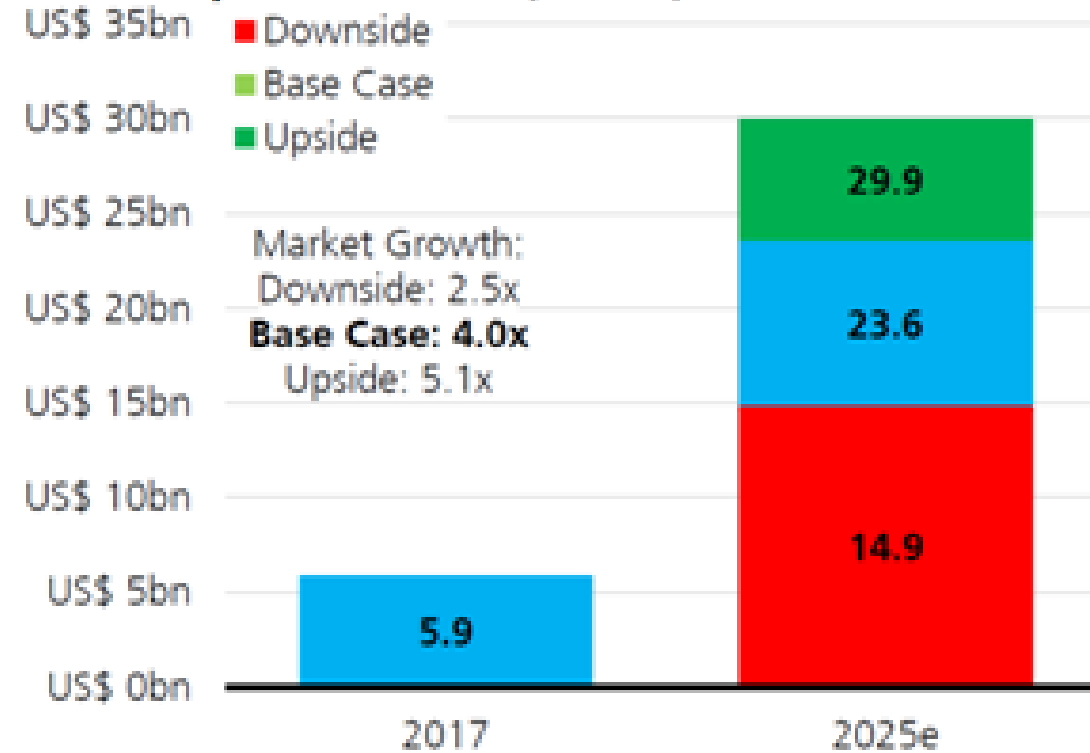
### <3-month view

- (1) **Nickel:** Premiums have rallied, inventory has fallen & the uplift in nickel rich batteries continues. Trade war fears should recede as China stimulus arrives.
- (2) **Copper:** Spot has been weak on trade fears but chunky short positions could reverse quickly given falling inventory, lifting premiums & China stimulus.
- (3) **Graphite:** Strong global steel output & seasonally-strong battery demand should combine with tighter supply in China & Mozambique & support prices.

UBS says an additional 1.1Mt of Graphite Supply (of Graphite Concentrate) is needed by 2025 which equals to another 3 Syrah Resources (350,000tpa) – UBS 27 Sept 2018

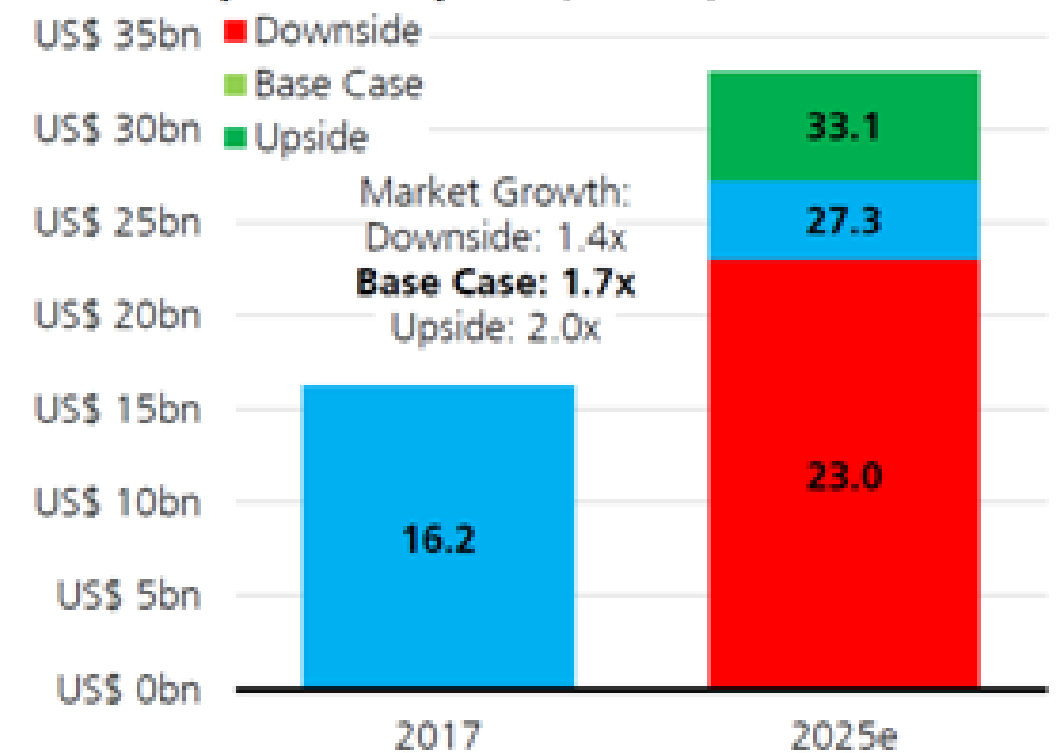
# Billion Dollar Opportunity from Graphite

Revenue pool – Lithium (US\$bn)



Source: UBS estimates

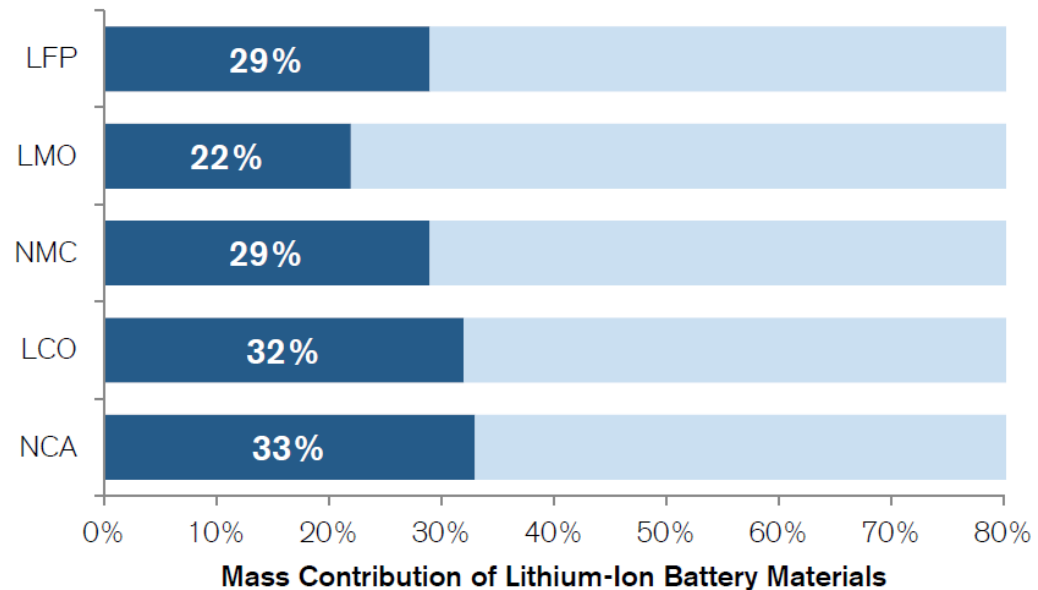
Revenue pool – Graphite (US\$bn)



Source: UBS estimates

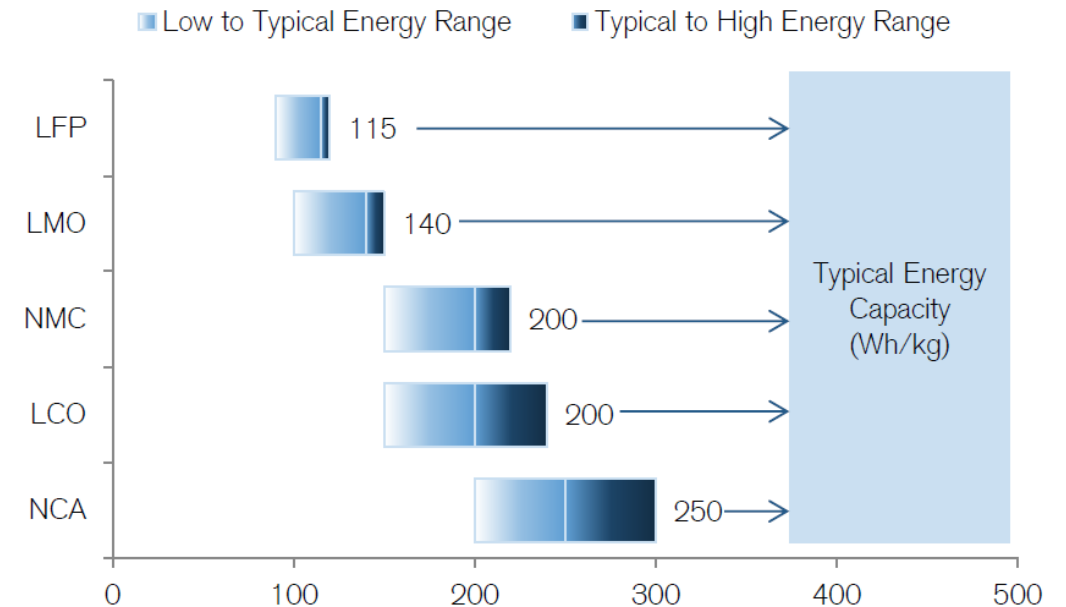
# Graphite in EV's

**Figure 51: Mass of Raw Materials in Lithium-Ion Batteries, % Graphite Contribution**



Source: Bloomberg New Energy Finance, Credit Suisse estimates

**Figure 52: Energy Capacity Levels of Lithium-Based Batteries**



Source: Battery University, Credit Suisse estimates

# Credit Suisse top 10 predictions about your future car by 2040

1. **1 in 4 cars will be Powered by Batteries:** 1/3 of production and 1/4 of cars on the road will be electric by 2040. Europe to power up faster than the US.
2. **Electric cars will be the most cost savvy option:** You will save about 100 dollars a year buying and using full battery vehicles compared to gasoline cars by 2040.
3. **Electric vehicles provide a roadmap for lower CO2:** average new cars will have around 60gCO<sub>2</sub>/km emissions – 1/3 of today's average output. This should lower annual CO<sub>2</sub> emissions by >1Gt – meaning car emissions are on track to limit runaway global warming.
4. **You will use your car like a mobile phone:** 90 percent of charging will be done in the office or at home overnight. This will consume 1,000TWh of electricity which equals 2.5 percent of global demand.
5. **Hands-free an option if you can afford it:** Self-driving cars will make up about 14 percent of car production letting you kick back and enjoy the journey. However, this will add around \$1,000 dollars per car electronic content and require insurance for both owning and using autonomous vehicles.
6. **No need to look under the hood:** Batteries become the heart of your electric car – we will require 3.7TWh of batteries per year which will need circa 100 Tesla sized Gigafactories (already the biggest building on earth) and around 3 million tons of lithium carbonate.
7. **Think sustainable chemistry not German engineering:** battery specs will differentiate vehicle performance, this will require careful chemistry choices to avoid production bottlenecks for metals like cobalt in the supply chain.
8. **Electricity the new gasoline:** gas consumption will be down 30 percent by 2040 to 280 billion gallons per year replaced by electricity generated from renewable sources.
9. **Don't be tempted to wait for fuel cell cars as they don't make carbon sense:** Using hydrogen to power cars produces water at the tailpipe but hydrogen comes from natural gas which means CO<sub>2</sub> emissions are similar to gasoline cars in total.
10. **...and definitely don't wait around for flying cars** – scientists are working hard on trapping anti-matter to figure out if it will "fall up" giving us the ability to create a flying car. CERN managed it with 309 anti-hydrogens for 1000 seconds. Unfortunately, just 1 kilogram of this material would contain the equivalent energy 700 million gallons of gasoline and is highly unstable – so don't hold your breath.

# Leadership - Board



**Jeff Dowling Non-Exec Chairman** Jeff has over 6 ½ years experience as a nonexecutive chairman and non-executive director, and over 30 years experience with Ernst and Young, predominantly leadership roles in audit, risk and finance. Since leaving Ernst and Young 6 ½ years ago Jeff has held non-executive chairman and non-executive director positions with ASX listed companies including NRW, S2 Resources, Sirius Resources, Pura Vida Energy, Atlas Iron and Fleetwood.



**David Flanagan AM CitWA Managing Director** David originally qualified as a geologist at the WA School of Mines and has worked in exploration and mining in Australia, Africa and Asia for more than 25 years. Prior to joining Battery Minerals he was founding Managing Director of Atlas Iron which grew from a \$9M exploration company to Australia's 4<sup>th</sup> largest iron ore producer with a \$3Bn market capitalisation ranked in the ASX 100. David has been recognised with a number of industry and community awards including; Governors Award for Giving 2011, Eisenhower Fellowship 2013, Western Australian of the Year and Business Leader of the Year in 2014, and an Order of Australia 2018.



**Brett Smith Non Exec Director** Brett has more than 30 years of experience as a geologist, manager, consultant and director in the resource exploration and mining industry throughout Australia and internationally. His industry experience is broad, dominated by exploration and resource definition. Mr. Smith is currently the Managing Director of Corazon Mining Ltd.



**Gilbert George Non Exec Director** Gilbert graduated with a Masters Economics from a prestigious Japanese university, Gilbert has a wide range of experience in international business development and management. Formerly a senior bilingual Australian embassy official in Tokyo. He continues to provides strategic advice to companies in Australia, Africa, Japan, the US and Europe and been involved in over \$950 million of new investment in Australia, in the resource, IT, food processing and service sectors. Resource experience includes coal iron ore, gold, uranium, oil and heavy mineral sands. He is the current Chairman of Mindax Limited (ASX: MDX) and holds directorships in Bedley Holdings , Victorian Wave Partners , Ocean Power Technologies and Governor Holdings. He was formerly a director of Tokyo Gas Australia Pty Ltd and Tepco Australia.



**Paul Glasson Non Exec Director (based in China)** Mr Glasson is a highly regarded China strategy specialist. He has lived in Shanghai for the past 20 years and is currently Executive Chairman of Satori Investments, a China focused investment advisory and private equity firm. He is a board member of the Australian China Chamber of Commerce (Shanghai) and Life Member of the Australia China Business Council. Paul is well known as a foremost expert on Chinese outbound investment, having been recognised with Deal of the Year by Mines and Money in 2014 for his origination and lead on the Baosteel-Aurizon on-market hostile takeover of Aquila, as well as being Young Leader of Asia by the Boao Forum for three years. He was also the Australia China Business Council's key proponent in engaging with key Chinese government and enterprise from 2008-2014



**Ivy Chen Non Exec Director** Ivy is a corporate governance specialist with more than 30 years' experience in mining and resource estimation. She served as the national geology and mining adviser for the Australian Securities and Investments Commission (ASIC) from 2009–2015 and is currently Principal Consultant at CSA Global. Ivy's experience in the mining industry in Australia and China, as an operations and consulting geologist includes open pit and underground mines for gold, manganese and chromite. As a consulting geologist she has conducted mineral project evaluation, strategy development and implementation, through to senior corporate management roles. Ivy has been a member of the VALMIN committee since 2015.

# Leadership - Executive Management



**Ben Van Roon Chief Operating Officer** After graduating from the WA School of Mines in 1996, Ben has accumulated 22 years industry experience in operating environments predominantly focused on new projects, open pit mining, ore processing and logistics. He has held senior operating roles with Henry Walker Eltin, Rio Tinto Iron Ore and Mineral Resources Ltd. Prior to joining Battery Minerals Ben led project execution and process improvement at two new large lithium projects in Western Australia.



**Nick Day Chief Financial Officer & Joint Co-Sec** Nick Day has over 20 years experience as a company director, CFO and company secretary for a broad range of listed and private technology companies and mining and exploration companies. These have included ASX and TSX listed exploration companies with copper, gold, lead, coal, zinc, rare earths and uranium projects in Madagascar, the Phillipines and North/South America, nano-technology and e-book IT companies to \$600 million, nickel/platinum AIM and ASX listed exploration and mining operations across six countries in Africa. He has extensive experience in Africa and Asia with strategic planning, business development, mergers and acquisitions, bankable feasibility studies, debt raising and project development. Recently Mr Day was CFO and Company Secretary at Minbos Resources Limited. Prior to his time at Minbos he was the CFO and Company Secretary at RTC Mining Inc., Finance Director of Coventry Resources Inc and Corporate Consultant and Company Secretary to Paringa Resources Limited.



**Tony Walsh Company Secretary & GM Corporate** Tony Walsh has over 30 years' experience in dealing with listed companies, ASX, ASIC and corporate transactions including 14 years with the ASX in Perth where he acted as ASX liaison with the JORC committee, four years as Chairman of an ASX listed mining explorer and as a director of a London AIM listed explorer. 7 years as Company Secretary of Atlas Iron Limited (ASX: AGO), and 2 ½ years as Company Secretary of Independence Group NL (ASX: IGO). Tony is also Company Secretary of Legend Mining Ltd (ASX: LEG) and a director of Entek Energy Limited (ASX: ETE). Tony is also an audit committee member of NOPSEMA, a federal government entity.

Prior to his time at Battery Minerals Tony was at Atlas Iron during the development of 4 iron ore mining operations between 2018 and 2013. Tony was also company secretary of Independence Group NL and JV representative on the development and commissioning of the Tropicana gold mine in Western Australian. He also led the corporate element of the \$440M Nova copper/nickel project financing for Independence Group NL



**Naomi Scott Legal Counsel** Naomi studied Law and International Relations in the UK and the US with specialisations in human rights and post-war policy development. After university, she worked with cross-community relations in Northern Ireland leading up to the Good Friday Agreement, brokering support for the outcomes of the peace process. As part of the United Nations her work brought her to regions of deep political crisis and natural disaster where her focus was conflict resolution and post-war reconstruction as well as working to stimulate trade in various countries. After working closely with World Bank Naomi joined the private sector, supporting mining companies to identify risk and to ensure compliance to international standards in trade. Prior to joining Battery Minerals, Naomi was the Chief Executive Officer of Anglo American in Mozambique. As CEO, she was responsible for all remote exploration, legal compliance, risk analysis and business development for the company.



**Nick Stephens Head of Marketing** Nick Stephens has extensive global commercial and leadership experience from over 25 years in the resources industry. Mr Stephens graduated from Curtin University with Honours and was awarded a scholarship with CRA's Hismelt R&D Technology to smelt Hamersley Iron's Iron Ore in JV with Kobe Steel. After Rio Tinto acquired CRA, Mr Stephens performed various senior marketing and commercial roles around the world, across Industrial Minerals, Base Metals, Head Office and Iron Ore for over 15 years. These roles provided direct sales, marketing and shipping exposure to commodities included salt, gypsum, copper, lead, zinc and iron ore. Mr Stephens final role at Rio Tinto Iron Ore was a member of the price negotiation team.

Over the last 10 years Mr Stephens has held various executive and director positions in public and private companies in Australia and Singapore. All companies were involved in mining, trading (physical and paper), logistics and shipping commodities including copper concentrate & cathode, antimony, gold and coal.



**Graham Fyfe GM Projects** Since graduating from the University of KwaZulu-Natal in 1989 Graham has worked in a range of process design and management, construction and operational roles with globally significant resource companies and engineering firms including De Beers, Fluor, Rio Tinto, Calibre and Bellzone Mining Plc. Graham has been involved in the design and commissioning of the Venetia diamond plant, Venetia hydrofluoric acid digestion plant, Kimberley CTP diamond plant, Paraburdoo Sustaining Works Upgrade and a 4mpta iron ore mine, plant, road and trans-shipping port in Guinea, West Africa. He brings a wealth of experience in design, construction and commissioning managing processing facilities throughout Africa.



**Jason Livingstone GM Geology** Jason is a Geologist who graduated from the West Australian School of Mines in 2002. He also holds an MBA from the Curtin Graduate School of Business, a graduate of the AICD Company Directors Course and a member of both the AIG and AusIMM.

Jason has worked on many different commodities across 4 continents ranging from grass roots exploration through to production roles. Prior to joining Battery Minerals, Jason was the Chief Geologist for Volt Resources in Tanzania managing the graphite resource and reserve development efforts.



**George Gao GM China** George Gao joined Battery Minerals Limited in June 2017 as General Manager, China. George is responsible for market study, marketing and sales, offtake agreement execution, ore testing, production equipment sourcing, etc. Prior to joining the Company George worked for several international engineering companies such as Worley Parsons, AECOM and Richteck Engineering in the roles of Director and Vice President based in China. George also worked for many years in New Zealand for Solid Energy as Global Procurement Manager. George has extensive experience in international business development, engineering and procurement of a range of industries - mining, chemical, oil & gas and power, etc.

George gained his MBA from the University of Waikato in New Zealand in 2003.

George is a proven senior manager with extensive general management and cross-functional commercial, marketing and sales, supply chain, and leadership experience. He brings a wealth of understanding and knowledge to the Company on the China graphite mining and processing industry.

# 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.
- Battery Minerals confirms that all the material assumptions underpinning the production targets for its Montepuez and Balama Central graphite projects and any of the forecast financial information derived from these production targets, in the 4 and 12 December 2018 ASX announcements, on these projects continue to apply at the date of release of this presentation and have not materially changed. Battery Minerals confirms that it is not aware of any new information or data that all material assumptions and technical parameters underpinning the estimates in the 4 and 12 December 2018 announcements continue to apply and have not materially changed.

## Competent Persons Statement

- 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 18 October 2018 and 4 December 2018 respectively, both of which are available at Battery Minerals website in the ASX announcement page.
- See ASX announcements on the Balama Central Feasibility Study dated 12 December 2018 for details, Table 1 and Competent Person Statement
- 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 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 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.
- 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.

## 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.

