



**ASX ANNOUNCEMENT**

By e-lodgement

30 July 2018

## **Positive Stage 1 Feasibility Study For Bunyu Graphite Project, Tanzania**

**Stage 1 Feasibility Study Highlights:**

- Key objective of Stage 1 development is to establish infrastructure and market position in support of the development of the significantly larger Stage 2 expansion project
- Stage 1 based on a mining and processing plant annual throughput rate of 400,000 tonnes of ore to produce on average 23,700tpa of graphite products positioning Volt as a meaningful participant in the global flake graphite market
- Stage 1 financial analysis delivers favourable NPV and IRR over a payback period of 4.4 years
  - Pre-tax NPV (10%) of US\$18.6M
  - Pre-tax IRR 21.0%
- Total EBITDA of US\$93.6M over 7 year Stage 1 project period – average annual EBITDA of US\$13.1M
- Development schedule of 12 months to first ore production - project development approvals and Stage 1 funding initiatives are well advanced
- Stage 1 FS indicates average FOB operating cost of US\$664 per tonne and start-up capital cost estimate of US\$31.8M
- Stage 1 development incorporates a significant amount of infrastructure, utilities and mine development work that benefits the Stage 2 expansion
- DFS for Stage 2 is planned to proceed concurrent with Stage 1 project development
- Volt currently completing the final binding offtake agreements for substantially all of Stage 1 annual production

Tanzanian focused flake graphite development company **Volt Resources Limited (ASX: VRC)** (“**Volt**” or “**the Company**”) is pleased to report the completion of the Feasibility Study (“**FS**”) into the Stage 1 development of the Company’s flagship Bunyu Graphite Project located in Tanzania.

### **Board and Management Commentary:**

**Volt's Chief Executive Officer, Trevor Matthews, commented:** "The Stage 1 Feasibility Study is another important step forward in Volt's plan to become one of the top three global producers of natural flake graphite.

"The Company has been implementing a two stage development strategy following the completion of a large scale Pre-Feasibility Study ("PFS") in December 2016. Concurrent with the PFS completion, Volt announced the largest graphite JORC Mineral Resource in Tanzania and one of the largest in the world.

"Following a detailed strategic review of product markets and financial markets, in May 2017 Volt announced a clear pathway to transition the Company into a globally significant producer of material quantities of high quality graphite products. It was decided that this accelerated pathway would be achieved via the development of the Bunyu Project over two stages.

Stage 1 is focussed on the development of a nominal 20,000 to 25,000tpa graphite mine and processing facility in Tanzania with planned exports of graphite products into the USA, China and other markets. The proposed Stage 2 development is an expansion of Stage 1 production based on the market demand for Bunyu's graphite products and leveraging the large scale graphite mineral resource and Bunyu's close proximity to critical infrastructure. The Stage 2 expansion is targeted to meet expected significant increases in demand for coarse flake graphite in the expandable graphite market and fine flake size products for battery anode material and other existing and evolving industrial uses for micro carbon products."

**Volt's Non-Executive Chairman, Asimwe Kabunga, commented:** "This is an exciting period for the Company and its shareholders as we work on this important near-term transition from developer to producer. The delivery of a robust Stage 1 Feasibility Study is a key step towards unlocking the considerable underlying value of our world-class Bunyu Project. Once funding is obtained, the Company will proceed with the Front End Engineering and Design for Stage 1 and place orders for long lead time components. Concurrent with the Stage 1 development, Volt also plans to commence work on the definitive feasibility study for the Stage 2 expansion."

### **Development Update:**

During the Stage 1 Feasibility Study the Company working with its Tanzanian subsidiary, Volt Graphite Tanzania Ltd (VGT), has also conducted the following activities:

- Completed and lodged the Environmental and Social Impact Study (ESIS). The ESIS has been reviewed by the NEMC and Technical Advisory Committee which has involved a site visit and technical review meetings and is now in the final stage prior to forwarding to the Minister for Environment for approval. It is important to note the environmental approval incorporates the area to be developed under Stage 1 and the Stage 2 expansion.
- Lodged two Mining Licence ("ML") applications covering the 18km<sup>2</sup> footprint for Stage 1 and the Stage 2 expansion. The recent appointment of the Mining Commission has resulted in a large number of licence applications being approved. Once the environmental approval is obtained, the Company expects the mining licences to be approved soon thereafter.
- Completed the Resettlement Action Plan and received all approvals for the compensation arrangements with approximately 1,100 people either farming and/or living within the mining licences area. This is an important milestone as without the compensation arrangements being approved, the Bunyu Project would not be able to proceed to development. As explained previously the footprint that the compensation area covers incorporates the Stage 1 and Stage 2 expansion project.
- Held meetings with Volt's graphite offtake partners and now completing the final binding offtake agreements for substantially all of Stage 1 annual production. These offtake agreements are in

addition to the existing binding offtake agreement with US based graphene company, Nano Graphene Incorporated.

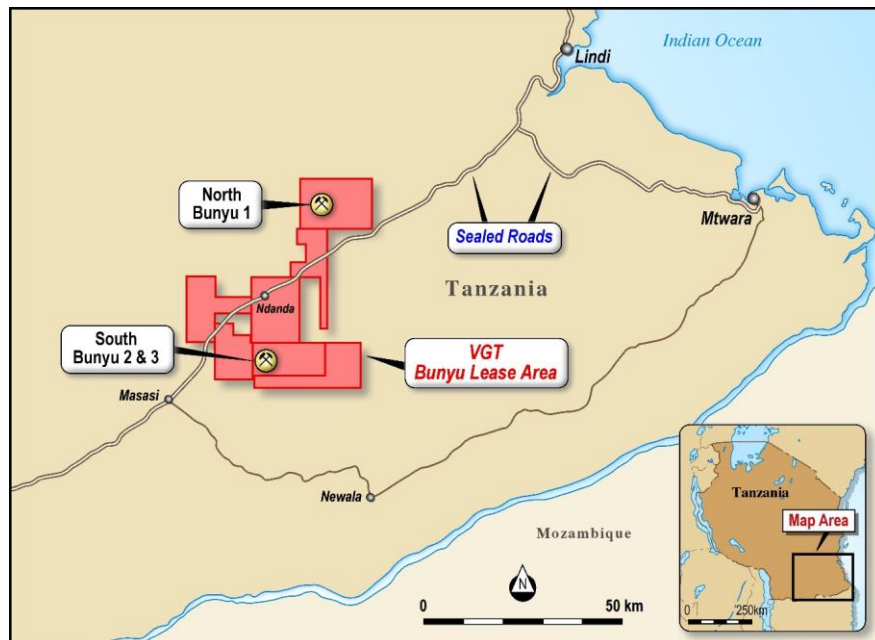
- Progressed with the development funding of Stage 1 through the planned issue of US\$40m of Tanzanian listed Notes (Bonds). With the assistance of the Company's advisors Exotix Capital, Orbit (sponsoring broker), Clyde and Co (legal) and Ernst & Young (Reporting Accountant) the Company has prepared and lodged a prospectus with the Tanzanian regulators, the Dar es Salaam Stock Exchange and the Capital Markets and Securities Authority for their review and approval. Comments on the prospectus have now been received from both regulators and the Company is engaged in finalising the changes to the prospectus requested and some additional matters discussed with the CMSA. Once the content of the prospectus and other matters have been agreed, the Company will proceed to issue the prospectus to qualified institutional buyers and sophisticated investors in East Africa. The prospectus remains open for 10 business days following which the Company will proceed to a development decision on the Bunyu Stage 1 project.

The Stage 1 development incorporates a significant amount of infrastructure, utilities and mine development work that benefits the Stage 2 expansion including the site access road, plant laydown area, tailings storage facility, waste dumps, stockpile areas, open pit development and mining, accommodation village, water supply, etc.

### **Stage 1 Feasibility Study Key Outcomes and Highlights:**

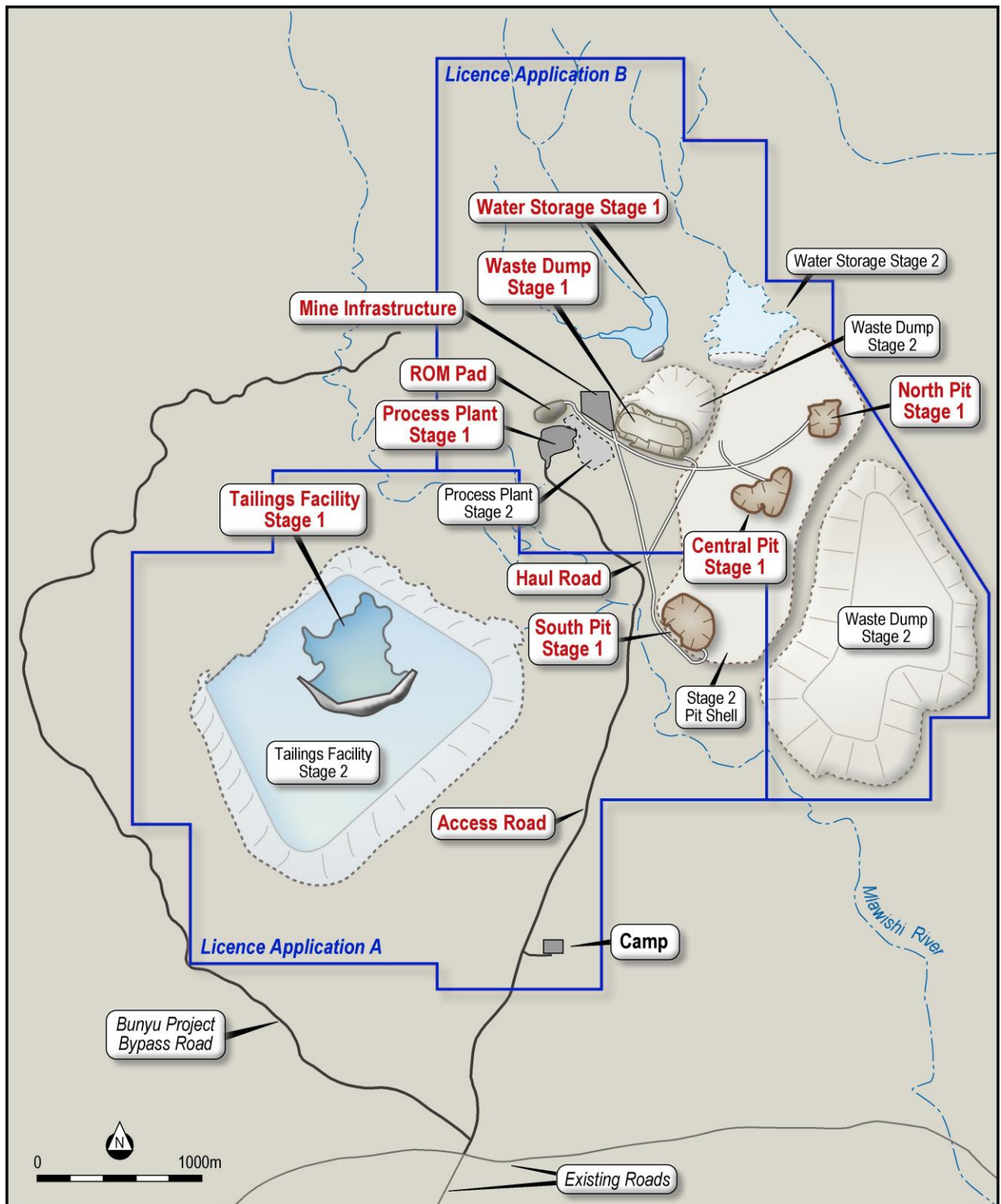
The Bunyu Stage 1 FS was based on a mining and processing plant annual throughput rate of 400,000 tonnes to produce on average 23,700tpa of graphite products. The FS financial analysis showed favourable NPV and IRR over a payback period of 4.4 years. The capital and operating cost estimates used for the FS have been prepared to an accuracy of  $\pm 15\%$ .

The 2018 mineral resource models were used to determine the Stage 1 FS Ore Reserve. The selected mining scenario, based on the outcomes of an open pit optimisation, was for three pits to be developed over 7 years with a total of 2.8Mt of mill feed being mined. The Ore Reserve reported within the pits comprises 46% Proven and 54% Probable Ore Reserves.



**Figure 1: Overall location map for the Bunyu Graphite Project**

**Figure 2** shows the planned layouts of the Bunyu 1 area. As well as the Bunyu 1 Stage 1 mine, the operation includes the processing plant and associated infrastructure. The planned location of the Stage 2 plant and infrastructure is also identified in **Figure 2**.



**Figure 2: Bunyu 1 - Project Layout**

### **Stage 1 Financial Outcomes:**

Based on the technical, operating and financial parameters used for the Stage 1 Feasibility Study, the following key financial metrics are derived per Table 1 below:

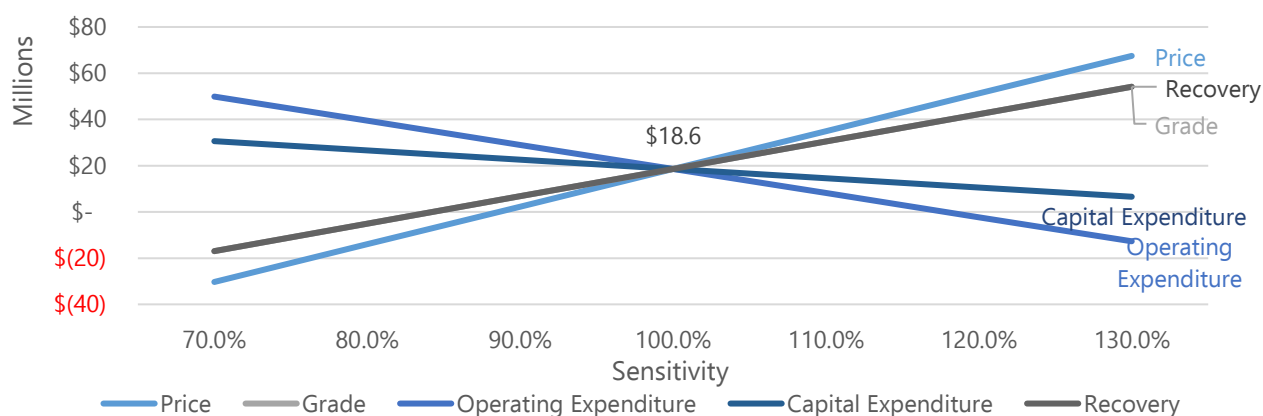
**Table 1: Bunyu Stage 1 FS - Financial Performance Summary**

Stage 1 Project		Financial Performance
Project Period - from first ore	years	7.1
Total Net Revenue	US\$ M, real	268.6
Total EBITDA	US\$ M, real	93.6
IRR - before tax	%, real	21.0
IRR – after tax*	%, real	19.3
NPV @ 10.0% - before tax	US\$ M, real	18.6
NPV @ 10.0% - after tax*	US\$ M, real	14.7
Capital Cost (year 0)	US\$ M, real	31.8
Payback Period - after tax - from first ore	years	4.4
* Tanzanian corporate income tax rate of 30% has been applied to the project plus minimum tax (MTA) of 0.5% of sales revenue in loss years. Payments of corporate tax on profits are estimated to commence from year 5 of production, after utilising the benefits of carried forward income tax losses.		

Sensitivity analysis was undertaken for five key economic drivers being graphite prices, feed grade, mineral recovery, capital expenditure and operating expenditure as shown in Table 2 and Figure 3 below. The sensitivity range used is +/- 30% movement from the FS estimate for each of the drivers. Revenue factors have the largest impact on project economics with graphite prices having the largest impact on NPV. Expenditure sensitivity analysis highlights the Bunyu Stage 1 FS has relatively low sensitivity to capital expenditure outcomes with operating expenditure movements providing a larger impact on project NPV.

**Table 2: Bunyu Stage 1 FS NPV Sensitivity Analysis (Disc. Rate @ 10%, US\$M, real, before tax)**

Key Economic Driver	Sensitivity Variation						
	70%	80%	90%	100%	110%	120%	130%
Capital Expenditure	30.6	26.6	22.6	18.6	14.6	10.6	6.6
Operating Expenditure	49.9	39.5	29.0	18.6	8.2	-2.3	-12.7
Grade	-17.0	-5.1	6.7	18.6	30.4	42.3	54.1
Recovery	-17.0	-5.1	6.7	18.6	30.4	42.3	54.1
Price	-30.3	-14.0	2.3	18.6	34.9	51.2	67.5



**Figure 3: Bunyu Stage 1 FS NPV Sensitivity Analysis (Disc. Rate @ 10%, US\$, real, before tax)**

### Income tax:

Tanzanian corporate income tax rate of 30% has been applied to the project plus minimum tax (MTA) of 0.5% of sales revenue in loss years. Payments of corporate tax on profits are estimated to commence from year 5 of production, after utilising the benefits of carried forward income tax losses.

### Exploration and Mineral Resource Definition:

Exploration within the Bunyu Project area was undertaken using a staged approach for target identification and progression through to the definition of a Mineral Resources. The initial phase of drilling was between October and November 2015 (at a nominal spacing of 200m across strike on section lines spaced at 400m along strike). A second programme during 2016 (infilled areas to a nominal spacing of 100m across strike on section lines spaced at 200m along strike) and the Mineral Resources at Bunyu 1, 2 and 3 were updated by ROM Resources leading to the resource update as part of the PFS announcement in December 2016.

An outcome from the PFS for the Bunyu 1, Bunyu 2 and 3 deposits was that additional drilling was required to increase the resource size and to infill the existing drilling density, with both RC and diamond drilling, to increase the resource confidence at all three deposits. In late 2017, an infill drilling programme was conducted within the upper, central zone of Bunyu 1 at a spacing of approximately 40m to 40m, targeting the higher grade, near surface mineralisation. A summary of the Bunyu 1 drilling programmes is provided in Table 3.

**Table 3: Drilling programmes at Bunyu 1**

Year	Hole type	Number of drillholes	Metres drilled	Number of TGC assays
2015	DD	4	321.20	468
	RC	61	3,293.00	2,692
2016	DD	15	1,387.15	1,797
	RC	15	1,777.00	1,599
2017	DD	16	463.30	462
	RC	56	1,452.00	1,452
Total	DD	35	2,171.65	2,727
	RC	132	6,522.00	5,743
<b>Total</b>		<b>167</b>	<b>8,693.65</b>	<b>8,470</b>

The geological model developed by Volt was reviewed in conjunction with Optiro and determined to be sound and representative of the Bunyu 1 area. Volt’s sectional interpretations were modified to interpret the higher grade mineralisation using a nominal cut-off grade of 3.5% TGC and to produce consistent layers of higher grade mineralisation along strike. In April 2018 the mineralisation interpretation was adjusted to include assay results from the 2017 drilling.

This interpretation was used to develop a wireframe model of the top four interpreted layers of higher grade graphitic mineralisation north of the interpreted fault zone, which are intersected by the Stage 1 north pit, and the top main layer south of the interpreted fault zone, that is intersected by the Stage 1 central and south pits. A layer of mineralisation that is to the south of the fault zone and above the main layer of mineralisation was also included. This model forms the basis of the 2018 Mineral Resource estimated for the Stage 1 development.

The geological interpretation is illustrated in the cross-section figures 4-6 which show the continuity of the graphite bearing stratigraphic units between drill holes and the three pits planned for the mining inventory: north, central and south pits respectively.

The 2018 resource model was developed for investigation of the Stage 1 pit designs. The global Mineral Resource for Bunyu 1 reported with the December 2016 PFS has not been re-estimated. The 2018 model is restricted to above 240 mRL and includes only the top two layers of mineralisation within the southern area and the top four layers of mineralisation within the northern area.

The Mineral Resources have been reported for the 2018 model above a 2.93% TGC cut-off grade and are included in Table 4. This cut-off grade was determined from technical and economic assessment of the mineralisation within the Stage 1 FS pits by Orelogy. **This resource tabulation is not a resource statement for the entire Bunyu 1 project and is presented for validation of the 2018 resource model which has been used as the basis of the 2018 Stage 1 FS pit designs.** Geological interpretation has identified additional mineralised layers: seven within the northern area, eight within the southern area and two within the eastern area.

**Table 4: Bunyu 1 - Mineral Resources within the 2018 resource model**

(restricted above the base of model surface and above 240 mRL) reported above a cut-off grade of 2.93% TGC

Classification	Million Tonnes	TGC %
Measured	8.0	5.8
Indicated	31.9	5.6
Inferred	36.9	5.1
<b>Total</b>	<b>76.8</b>	<b>5.4</b>

**Note: this update does not cover the global Mineral Resources at Bunyu 1**

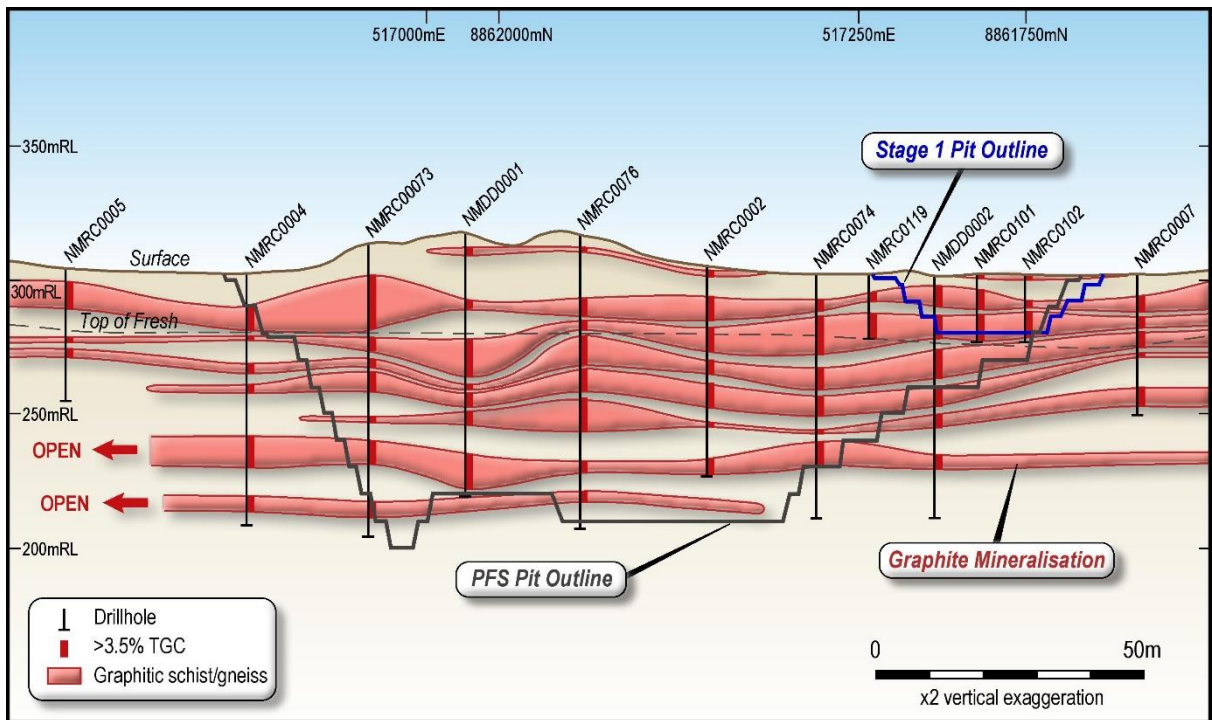


Figure 4: Bunyu 1 Stage 1 North pit cross section showing mineralised units and general topography

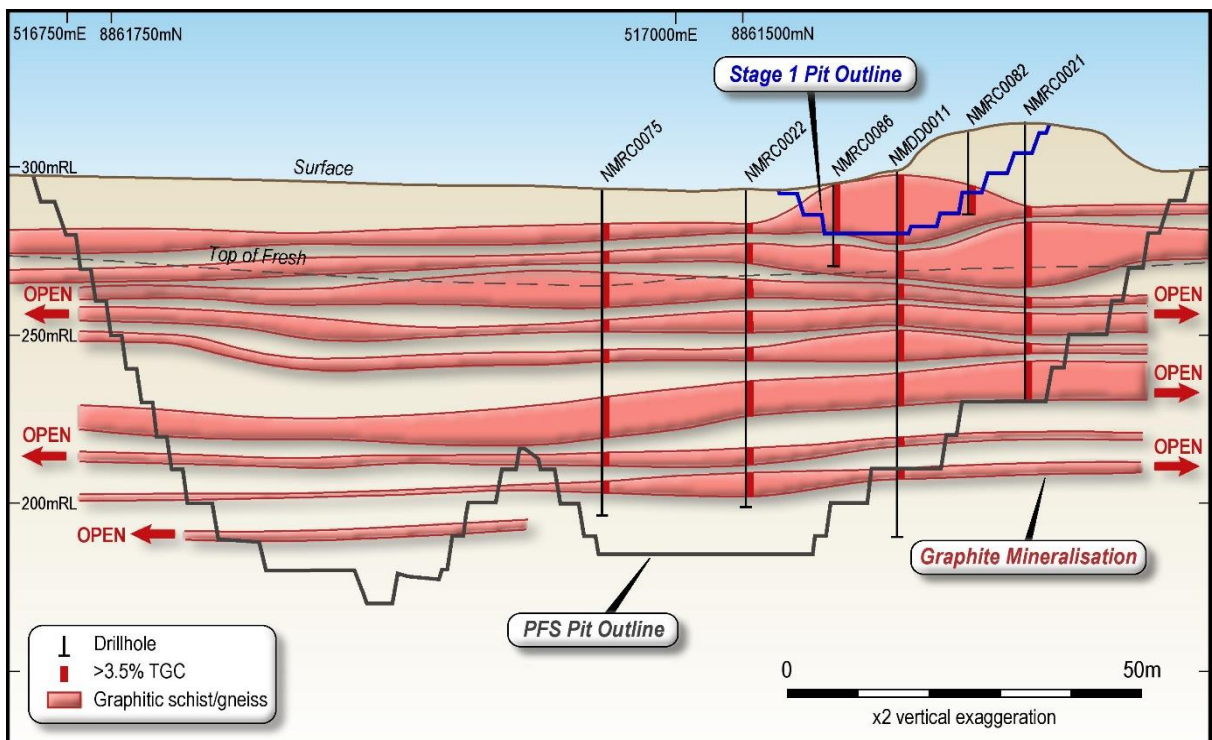
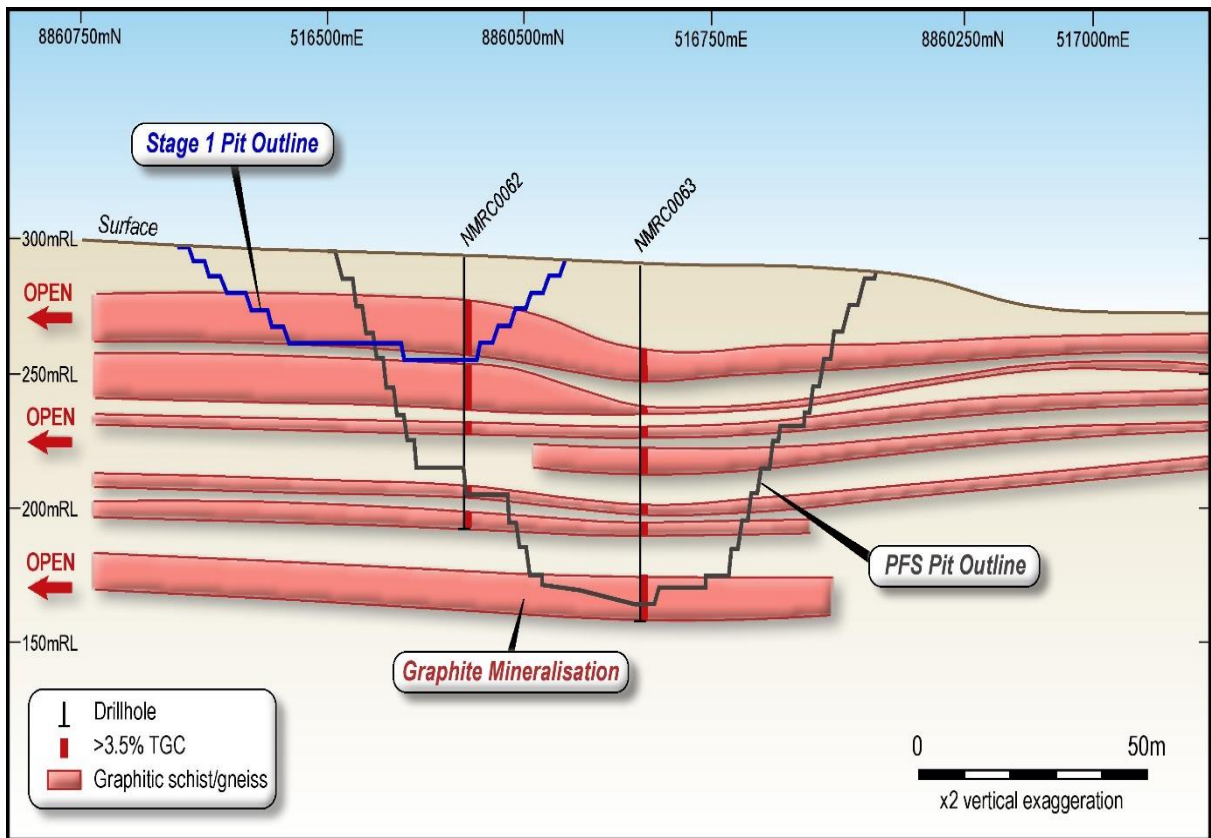


Figure 5: Bunyu 1 Stage 1 Central pit cross section showing mineralised units and general topography





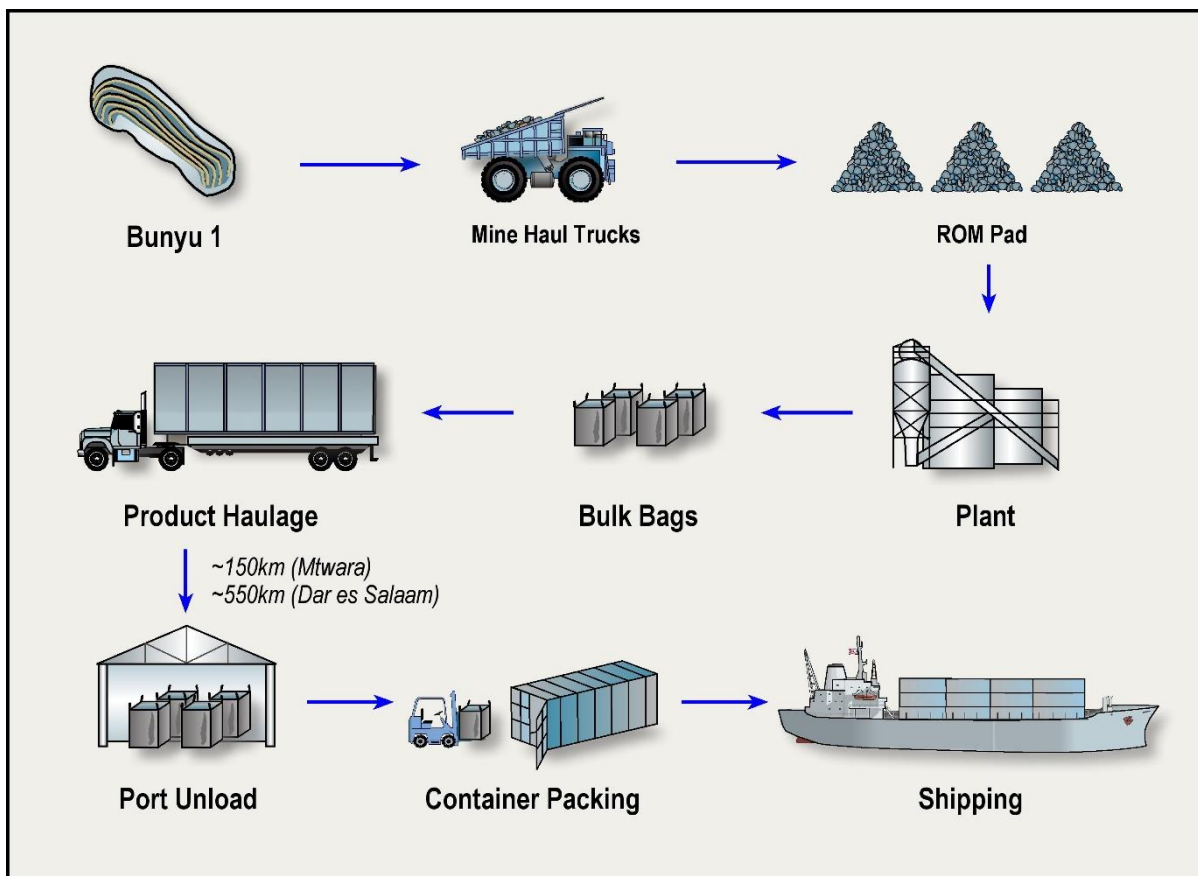
**Figure 6: Bunyu 1 Stage 1 South pit cross section showing mineralised units and general topography**

**Mining:**

Volts strategy for the Bunyu 1 Stage 1 Graphite Project is based on a plant throughput rate of 400,000 tonne of ore per annum and a nominal mine life of approximately 7 years. Figure 7 graphically shows the activities involved across the project to bring the proposed product to market.

The Stage 1 FS mining study including pit optimisation, pit, waste rock dump and stockpile designs, dewatering, AMD ore and waste consideration and global mining schedule, grade, ore and waste tonnage and estimated mining operating costs and site establishment capital cost at Bunyu 1, has been undertaken by the Mining Consultant (Oreology Mine Consulting).

The 2018 mineral resource model was used to determine the Bunyu 1 Stage 1 FS Ore Reserve and associated mine production schedule. The selected mining scenario, based on the outcomes of an open pit optimisation, was for three pits to be developed over 7 years with a total of 2.8Mt of mill feed being mined.



**Figure 7: Outline of ore movement from pit to market**

The scope of the Stage 1 FS was to develop a project plan for a relatively small component of the Bunyu 1 deposit. The Bunyu Stage 1 FS Ore Reserve is considered a subset of the 2016 Namangale 1 Ore Reserve released by Volt on 15 December 2016 as part of the 2016 Namangale Pre-Feasibility Study. It therefore does not replace or update this reserve and is for the purposes of underpinning the Stage 1 FS. The overall Ore Reserve for Bunyu (previously Namangale) will be updated as part of the Bunyu Stage 2 DFS which will be based on the whole of the Bunyu 1 deposit.

Table 5 below details the Stage 1 Ore Reserve for Bunyu 1.

**Table 5: Bunyu 1 Stage 1 Ore Reserve (Cut-off grade 2.93%)**

Location	Material	Ore		Waste	Total	Strip Ratio
	Classification	kt	TGC %	kt	kt	
North	Proved	833	6.1%	109	1,001	0.12
	Probable	60	5.1%			
	Subtotal	892	6.0%			
Central	Proved	472	6.2%	593	1,408	0.73
	Probable	343	5.6%			
	Subtotal	815	5.9%			
South Starter	Proved		0.0%	916	1,315	2.30
	Probable	399	6.8%			
	Subtotal	399	6.8%			
South Main	Proved		0.0%	649	1,358	0.91
	Probable	709	6.6%			
	Subtotal	709	6.6%			

Material		Ore		Waste	Total	Strip Ratio
Location	Classification	kt	TGC %	kt	kt	
TOTAL	Proved	1,305	6.1%	2,267	5,082	0.81
	Probable	1,511	6.4%			
	Total	2,815	6.3%			

The Bunyu Stage 1 FS Ore Reserve comprises 46% Proved and 54% Probable Ore Reserves. Both the Stage 1 Ore Reserve and Mineral Resource underpinning it have been prepared by competent persons in accordance with JORC requirements. The Bunyu Stage 1 FS Ore Reserve is a subset of the 2018 Mineral Resource Estimate and all Inferred Mineral Resource has been treated as waste.

The Bunyu Stage 1 FS mine plan and associated Ore Reserve were developed by Orelogy Consulting Pty Ltd. A site geotechnical assessment for the Bunyu Stage 1 FS open pits was carried out by specialist consultants Pells Sullivan Meynink. A total of four holes were drilled specifically to collect geotechnical data. Geotechnical logging of drill core was completed along with geotechnical testing of selected drill core. Geotechnical slope criteria were provided for the four different modelled weathering domains. The Bunyu Stage 1 pits are shallow, extending no more than approx. 40m below surface. The pits do not extend into fresh material.

Specialist consultant AQ2 undertook a site hydrological and hydrogeological appraisal as part of the Bunyu Stage 1 FS and the management of surface and groundwater has been based on the outcomes of their assessment. Groundwater inflows are expected to be minimal due to the low permeability of the predominantly oxide material and the drawdown of the water table from surrounding bores to supply water to the process plant.

The proposed mining method is a conventional, drill, blast, load and haul, open pit with waste material stacked in waste dumps. Mining is to be undertaken by a contractor under the control and management of VGT personnel and will likely be operated on a 12 hour 365 day per year basis as required. A bench height of 6 metres has been selected, excavated in 3 x 2 metre lifts or flitches. This is considered appropriate for both the orebody and the equipment proposed by mining contractors'.

An open pit optimisation was undertaken where only Measured and Indicated Mineral Resource were considered ore material, while all other material was reported as waste. The optimisation utilised the following modifying parameters.

- Dilution and oreloss – Dilution has been modelled by reblocking the Resource Model, which uses a 0.5 metre block height, to a 2 metre block height to reflect the selectivity of the 2 metre flitch. The model was then re-reported and any material diluted below the cut-off grade was treated as waste. All Ore Reserves are based on this diluted mining model.
- Pit Wall Slopes – Based on initial design recommendation from Pells Sullivan Meynink, which were confirmed prior to completion of the Ore Reserve estimate.
- Mining Costs – Based on an initial Orelogy estimate of approx. \$6.30US/tonne compiled from information collated from budget price submissions from prospective shortlisted mining contractors. This is in line with the final cost estimate.
- Processing Parameters – The proposed ore treatment process involves crushing followed by grinding and graphite flotation. The final graphite product will be filtered, dried and bagged for transport and subsequent loading onto ships in sea containers. An initial estimate for processing cost of \$24.25US/tonne was developed by BatteryLimits and Orelogy, which included allowances for processing

fixed and variable costs, grade control and sustaining capital. A TGC recovery of 91% and average product grade of 93.5% were also provided by BatteryLimits and based on metallurgical testwork.

- A net price inclusive of \$859.40US/tonne TGC was supplied by Volt, which included allowances for government and vendor royalties, transport to port, port charges, shipping and insurance.
- An initial project capital was not applied.

On the basis of the above parameters a breakeven cut-off grade of 2.93% TGC was determined. This calculation did not include an allowance for dilution as the regularised model used to develop the Ore Reserve (described above) already allowed for dilution.

The open pit optimisation process was utilised to determine the extent of the highest value pits that provide the required inventory for the Stage 1 project (approx. 2.8Mt). As such small shells were selected to achieve this target that lay well within any final economic limit for Bunyu 1. Consequently the optimisation parameters were only critical in terms of generating shells of different relative size and value, not in confirming an ultimate economic pit limit.

The optimisation shells selected indicated that pits were developed in three areas, nominally North, Central and South. Pit development will be staged with the North and then Central pits contributing to the initial plant feed with the South pit development commencing from Year 3. Ore feed is transitional with varying states of oxidation; the top of fresh rock is below the Stage 1 pit limits.

The Bunyu Stage 1 FS mining schedule was designed to generate a minimum 400,000tpa of plant feed annually, resulting in an average feed grade of 6.26% TGC. The schedule summary is shown in Table 6 below. Approximately 223kt of surficial waste material within the South pit are utilised as bulk fill material in the construction of the Tailings Storage Facility and Water Storage Dam. This material is removed during the plant construction phase and therefore the Bunyu Stage 1 Ore Reserve waste tonnes are depleted by this amount prior to scheduling. Consequently the schedule comprises a reduced waste tonnage of 2,044kt for the same amount of ore (2,815kt) mined over a 7.1 year periods at a lower strip ratio of 0.73. No Inferred Mineral Resource has been included as ore in the Bunyu Stage 1 FS Mining Schedule. The schedule was generated in monthly periods for the first two (2) years and the quarterly thereafter. Table 6 provides an annual summary of the schedule, which shows that Proved Ore Reserves constitute 82% of the plant feed for the first three (3) years of operation.

**Table 6: Bunyu Stage 1 FS Mining Schedule – Summary**

Item	Units	Total	Year									
			-1	1	2	3	4	5	6	7	8	
Ore	Tonnage	kt	2,815		440	446	416	340	342	399	400	32
	TGC	%	6.26		6.04	6.05	6.06	6.03	6.16	6.61	6.96	5.36
	Proportion Proved Ore Reserve	%	46%		83%	82%	81%	55%	14%			
Waste	kt	2,044		311	316	149	541	543	184	0	1	
Total	kt	4,859		750	762	565	881	884	583	401	33	
SR	t:t	0.73		0.71	0.71	0.36	1.59	1.59	0.46	0.00	0.02	

Mining costs have been based on budget price submissions from mining contractors, with additional allowances for rehandle, overhaul and AMD management included by Orelogy as required. Site

infrastructure requirements and costs have been developed by BatteryLimits, but the mining infrastructure and mining fleet will be supplied by the contractor.

Product will be transported by truck to either Mtwara or Dar es Salaam ports for on-shipping to the customer. Some upgrade of the road from site to the main B5 highway will be required and this has been allowed for in the FS estimation.

The current status of the environmental and regulatory requirements for the project are detailed below.

**Metallurgical Testwork:**

During the feasibility and prior to the diamond drill core from the 2017 drill program becoming available an optimisation testwork program was conducted on remnant material from the 2016 bulk trench samples to investigate:

- Use of an all in one reagent, to potentially reduce the number of onsite reagents
- Effects of increasing primary grind size
- Rougher concentrate regrinding methods
- Effects of grinding media size
- Screening of intermediate cleaner concentrates to preserve coarse flakes

The outcomes were incorporated into the variability and composite metallurgical testwork undertaken on diamond drill core samples totalling 960kg for the Stage 1 planned development.

Testwork was undertaken at ALS Balcatta with composite details below.

**Table 7: Bunyu 1 FS Composite Details**

Composite ID	Drill Hole ID	Depth (m)	
		Initial	Final
NMDD0021	NMDD0021	6	24.3
NMDD0022	NMDD0022	8	24.5
NMDD0024	NMDD0024	7	24.9
NMDD0025	NMDD0025	0	24.1
NMDD0026	NMDD0026	0	24.4
Upper Composite	All FS Drill Holes	0	12
Lower Composite	All FS Drill Holes	12	EOH
Master Composite	All FS Drill Holes	0	EOH

Some comminution testwork was undertaken to complement the PFS range of testwork, the primary focus was grinding and flotation testwork on both a composite and variability samples showing overall the results indicate the variability in the area is low.

**Table 8: Final Master Composite Flotation Results**

Combined Cleaner Concentrate						
Final PSD P <sub>80</sub> (µm)	Overall TGC		TGC +150µm		TGC-150µm	
	% Grade	% Rec.	% Grade	% Dist'n.	% Grade	% Dist'n
282	92.8	94.1	92.4	56.1	93.4	43.9

**Table 9: Summary of Variability Flotation Results**

Test # ID	Composite ID	Combined Cleaner Concentrate						
		Final PSD P <sub>80</sub> (µm)	Overall TGC		TGC +150µm		TGC-150µm	
			% Grade	% Rec.	% Grade	% Dist'n.	% Grade	% Dist'n
BF1114	NMDD0021	278	94.1	93.2	89.2	53.2	93.6	46.8
BF1115	NMDD0022	281	92.3	95.4	91.1	55.4	92.6	44.6
BF1116	NMDD0024	293	91.5	94.7	90.3	57.7	92.6	42.3
BF1117	NMDD0025	277	92.6	94.9	91.7	54.6	93.5	45.4
BF1118	NMDD0026	279	92.7	94.4	92.1	53.1	92.7	46.9
BF1120	Upper Composite	285	92.9	91.4	91.2	52.9	93.1	47.1
BF1119	Lower Composite	275	92.8	94.1	91.9	51.9	93.0	48.1

The above results were used in determining FS estimates including metallurgical performance, reagent consumption and graphite product mix for marketing discussions and price assumptions.

#### **Processing, Infrastructure and Logistics:**

Processing will be by well-proven crushing, grinding and flotation methods. At Stage 1, ore will be fed to the processing plant, located at Bunyu 1, at a nominal rate of 400,000tpa to produce a nominal 20-24,000tpa graphite product averaging 92-96% TGC at a nominal 93% recovery. This is based on metallurgical testwork programs managed by Battery Limits and undertaken at ALS Laboratory (ALS) Perth assessing the ore from the diamond drill core's amenability to beneficiation by froth flotation through a range of testwork programs.

The proposed processing flowsheet consists of the following primary activities.

- ROM Bin with grizzly and Apron Feeder
- Two-stage Crushing Circuit – a primary jaw crusher and secondary cone crusher
- Grinding – Rod mill in closed circuit with a vibrating screen
- Flotation consisting of roughing and five stages of cleaners with inter-stage attrition regrinding
- Secondary cleaner screening to remove coarse flake graphite to minimise overgrinding potential
- Filtration and product drying
- Screening of final product graphite
- Bagging of sized fractions of graphite product
- Tailings will be stored in a tailings storage facility on the mining lease.

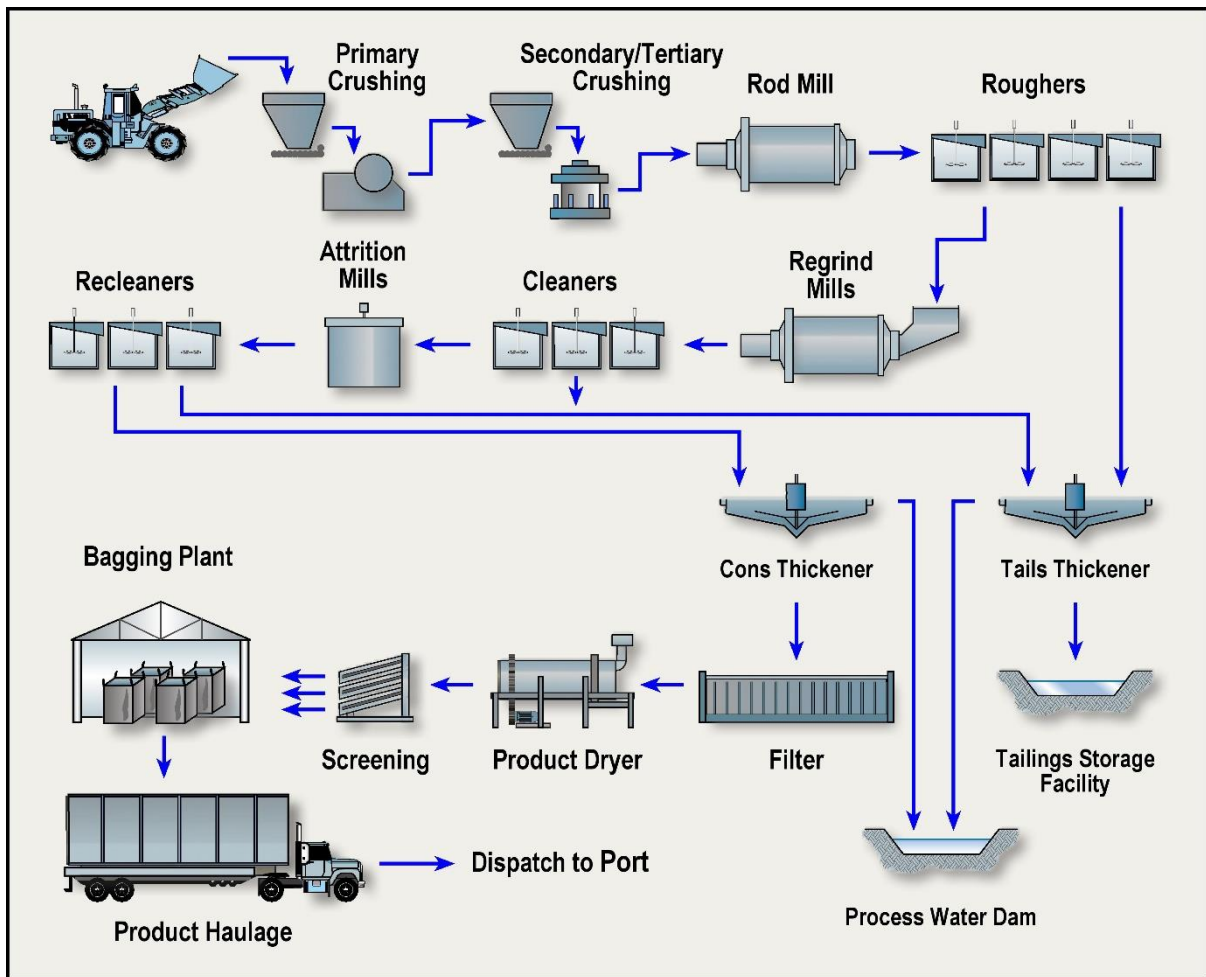


Figure 7: Outline of ore processing to produce final graphite product

The bagged graphite product will be then trucked approximately 550 km to the port at Dar es Salaam (DAR) in eastern Tanzania where the bags will be loaded into 20' or 40' sea containers in preparation for shipping to customers. The feasibility study investigations have recommended DAR as the lower cost port option for Stage 1. This is due to the modest Stage 1 product tonnages and current absence of coastal shipping in Tanzania. Discussions and investigations are ongoing for a Mtwara based shipping solution for Stage 1 that is cost competitive and robust.

VGT will operate the processing and power plant, and manage a mining contractor, graphite product fleet transport and logistics functions.

Additional infrastructure to support the processing plant will include:

- Bores and water storage reservoir for water supply
- Office and workshop facilities
- Generators for process plant and ancillary power
- Access roads within the plant and the Project site
- Camp facilities.
- A 3 MW generator plant using diesel fuel will supply power to the plant.

Water recovery will be utilised to minimise the process water requirement.

## **Regulatory and Environment:**

### ***Regulatory***

The Bunyu Prospecting Licences for the Project were granted in 2015/16 and remain valid until 2019/20. Under the Tanzanian Mining Act (2010), administered by the Ministry of Minerals, a Mining Licence (ML) or Special Mining Licence (SML) may be issued after the applicant has submitted various documents and plans including the following items:

- Feasibility report (PFS provided by Volt)
- Environmental certificate after approval of an Environmental and Social Impact Assessment (ESIA)
- Environmental Management Plan (EMP)
- Employment and Training Program
- Procurement Plan
- Resettlement Action Plan (RAP)
- Program of Mining Operations
- Infrastructure Requirements Report
- Local Content Plan

VGT lodged applications for two Mining Licence (“ML”) applications covering the 18km<sup>2</sup> footprint for Stage 1 and the Stage 2 expansion. The recent appointment of the Mining Commission has resulted in a large number of licence applications being approved. Once the environmental approval is obtained, the Company expects the mining licences to be approved soon thereafter.

Regulatory changes in July 2017 have been assessed by Volt and it is believed these changes will not prevent Volt from progressing with the current business strategy and plans for development of the Bunyu Project.

A summary of these legislative changes, which were enacted by the Tanzanian Parliament effective 1 July 2017 over the legal framework governing the natural resources sector in Tanzania, and their expected impact on Volt, was contained in the Company’s ASX announcement of the 7 July 2017.

The key impacts of those regulatory changes on Volt were summarised as follows:

- The Tanzanian Government will have a 16% non-dilutable free carried interest in Volt’s Tanzanian subsidiary which increases from a current interest of nil.
- There are a number of reporting and compliance related provisions in the new legislation that could cause some increased costs, but they are not materially more than Volt currently plans to monitor and report against. Therefore, these changes are seen as having negligible impact on the project.
- The royalty rate remains at 3% for industrial mineral products which includes graphite products.
- The introduction of beneficiation of minerals, metallic and precious minerals warehouses, concentrate liens and related provisions are not expected to have a material impact on Volt’s Bunyu project.
- Volt has no material agreements with the Tanzanian Government and, therefore, is not impacted by the Review and Re-Negotiation of Unconscionable Terms Act.

Based on the information currently available, Volt remains of the view that the above legislative changes will not cause or prevent Volt from progressing with its current business strategy and plans for development of the Bunyu projects.



All financial outcomes presented in this study represent 100% of the Bunyu Stage 1 Project held by Volt's Tanzanian subsidiary.

**Environment, Social and Community**

During the first quarter of 2018, VGT lodged its Environmental and Social Impact Study (ESIS) with the National Environmental Management Council (NEMC). The lodgement of the ESIS follows the completion of a significant body of work including flora and fauna surveys, heritage surveys, and stakeholder identification, including public consultation and the development of environmental and social monitoring and management plans.

The ESIS covers the area required for the Stage 1 and Stage 2 expansion projects at Bunyu 1. The ESIS forms a key component of Volt's near-term development plans for Bunyu 1 and following assessment by NEMC, will be lodged with the Environment Minister for approval. Once approved, Volt will be issued with its Environmental Certificate for the Bunyu project.

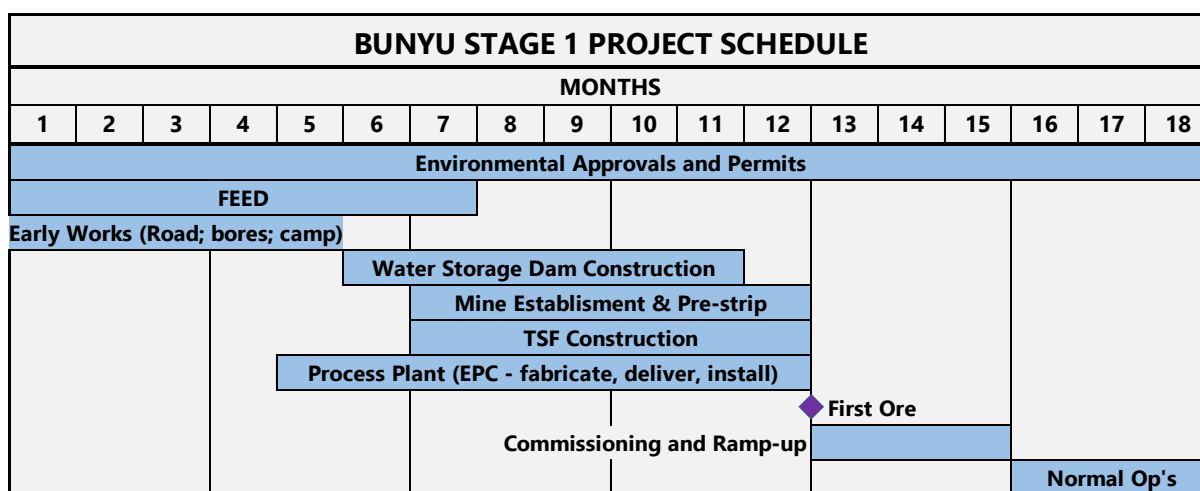
Following the issue of the Environmental Certificate, the ML applications can be progressed, and other secondary approvals obtained.

The Resettlement Action Plan has been completed and all approvals for the compensation arrangements for approximately 1,100 people either farming and/or living within the mining licences area. This is an important milestone as without the compensation arrangements being approved, the Bunyu Project would not be able to proceed to development. The footprint that the compensation area covers incorporates the Stage 1 development and Stage 2 expansion project.

**Implementation Schedule:**

The two-stage approach to project development starting with a smaller-scale Stage 1 start-up project will enable establishing local relationships, project development and logistics paths. This will provide commercial quantities for marketing of larger annual flake graphite production, developing downstream processing options and enhance the ability to fund the subsequent Stage 2 development. The DFS for Stage 2 is planned to proceed concurrent with Stage 1 project development.

A high-level project schedule for stage 1 has been developed in Figure 8. The projected timeline from the approval of funding to first ore is just over one year with first shipment of product assumed during the commissioning period, assuming environmental and mining licence approvals and a number of secondary permits and licences are secured in a timely manner.



**Figure 8: Project implementation schedule**

The most likely contracting strategy will be an EPC contract for the main plant, and a range of contracting strategies will be utilised in the construction of the infrastructure for the Project that are fit for purpose. Operating contracts for mining, a range of services and operating support contracts will be required to support the Stage 1 operation

### **Capital and Operating Cost Estimate Breakdown:**

The capital and operating cost estimates have been prepared to an accuracy of  $\pm 15\%$ . The capital cost estimate summary is shown in Table 10. The capital cost estimate is US\$31.8 M.

**Table 10: Capital cost estimate summary**

Description	Capital Cost (US\$'000)	% of TOTAL
Process Plant		
Plant facility	7,587	24
Process Plant - Infrastructure	2,669	8
<b>Total Process Plant</b>	<b>10,256</b>	<b>32</b>
Project Infrastructure		
Infrastructure	8,827	28
Mine site establishment	747	2
<b>Total Infrastructure</b>	<b>9,574</b>	<b>30</b>
Indirect costs		
Mobilisation costs, temp facilities, construction expenses, commissioning	2,001	6
Engineering, procurement, construction management	2,738	9
Pre-strip	749	2
Pre-production Labour	1,229	4
Owners' costs	2,246	7
Contingency	2,978	9
<b>Total Indirect Costs</b>	<b>11,941</b>	<b>37</b>
<b>GRAND TOTAL</b>	<b>31,771</b>	<b>100</b>

The operating cost estimate is US\$664/t graphite product (FOB) average for Stage 1, with a summary shown in Table 11. The equivalent CIF operating cost is estimated at US\$678/t.

**Table 11: Operating cost estimate summary**

Annual Operating Costs	Av. Total (US\$k/y)	Total Cost (%)	Feed (US\$/t)	Product (US\$/t)
Technical Services & Mining	3,092	19	7.80	125
Processing	6,770	41	17.09	273
Maintenance	591	4	1.49	24
General & Administration	2,987	18	7.54	120
Product Logistics (FOB)	3,022	18	7.63	122
<b>Total</b>	<b>16,462</b>	<b>100</b>	<b>41.55</b>	<b>664</b>

### **Human Resources:**

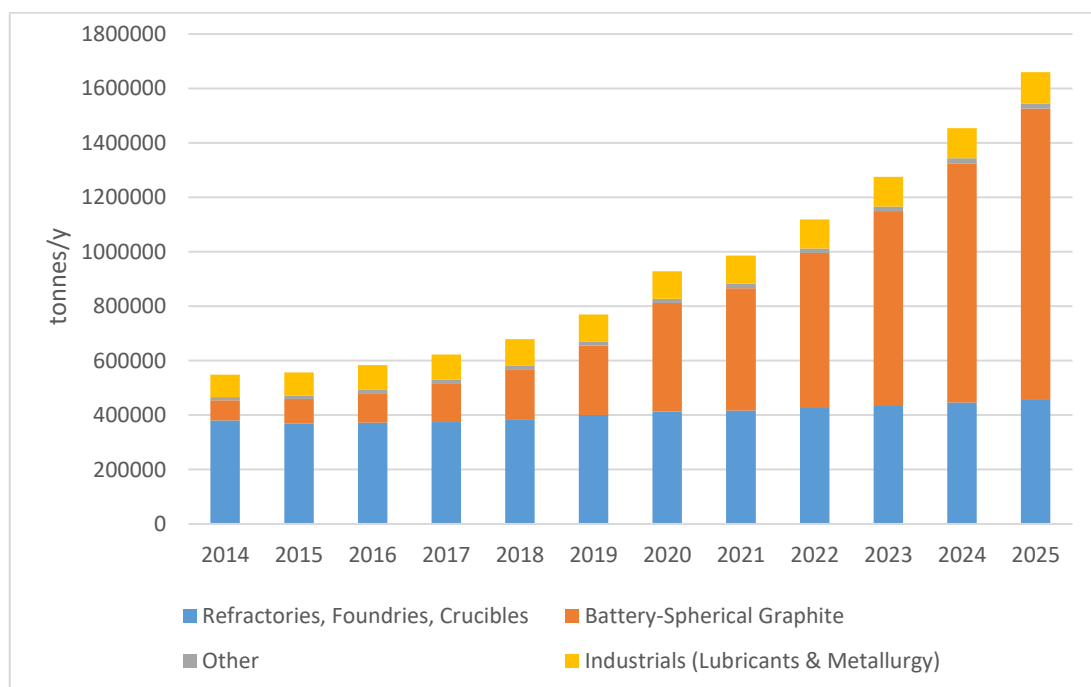
The operating strategy for the Stage 1 FS is based on mining by contractor with management, processing, and administration by VGT. The Tanzanian government require local content plans and the progressive upskilling and empowering of local people and local businesses for a range of businesses including mining. A comprehensive local content plan has been submitted as part of the mining licence application process. There will be a training program that ensures on-the-job training and employment opportunities for Tanzanian citizens, and has engaged local HR experts P5 HR Consulting Ltd to support the feasibility study and the project development and implementation.

VGT intends to maximise local employment as per our commitment to be a responsible employer to offset the impacts of potential physical and economic displacement. Expatriate labour will be employed only where suitable skills cannot be sourced locally or within country and expatriate staff will require to be fully trained and certified with relevant mining experience. Working permits will be valid for 24 months with possible renewals of a further 36 months, or longer under certain circumstances. A localisation program will be developed to ensure a smooth transition to local employment. The Stage 1 operations workforce is estimated at 61 people with up to 60 additional contractors.

### **Marketing and Sales:**

Currently natural and synthetic graphite production is around 2.5 million tonnes per annum. However, two industries that use natural and synthetic graphite have the potential to more than double global demand over the next five years - lithium-ion batteries and fire-retardant building materials. Industrial Minerals forecast growth in flake graphite is shown in Figure 9.

For the growth sectors of lithium-ion batteries and fire-retardant building materials, it is expected most new supply will be naturally-sourced graphite, which is materially beneficial to the Bunyu Project. It is the view of Volt's Board and Senior Management that demand for flake graphite from the expandable applications sector (including fire-retardant building materials) will continue to increase ahead of industry forecasts, representing a significant opportunity for the Company over the short to medium term.



**Figure 9: Industrial Minerals: Flake Graphite Demand Forecast 2014-2025**

Volt has had dialogue with end users, traders and intermediaries across China, Japan, Korea, Europe and North America. Due to the size of the Chinese graphite market, China has been identified as a target market for Volt’s product from Stage 1. Anecdotal evidence implies that China has ample small/medium flake graphite reserves in the ground. However, it has limited reserves of coarse flake sizes. Product size above 100# is classified as coarse flake and generally suitable for supplying the expandable graphite market. With this market background Volt signed non-binding Cooperation Agreements and Term Sheets with leading end-user groups in China in mid 2017 as follows.

**CNBM General Technologies (previously CNBMGM)** – Cooperation Agreement  
 SOE - largest building materials group in China with net assets exceeding US\$80 B  
 10,000-15,000 t/y for 5 years with a further 5 years mutual option to extend.

**AOYU** – Cooperation Agreement  
 One of China’s leading Graphite miners and processors  
 10-20,000 t/y off-take for 5 years with a further 5 years mutual option to extend.

**Qingdao Tianshengda Graphite Co. Ltd. (Tianshengda)** – Term Sheet  
 Major graphite processor and distributor, specialising in expandables  
 10,000 t/y off-take for 5 years with a further 5 years mutual option to extend.

**Qingdao Guangxing Electronics Material Co. Ltd. (GEM)** – Term Sheet  
 Major graphite processor and distributor, specialising in expandables  
 5,000 t/y off-take for 5 years with a further 5 years mutual option to extend.

Further discussions have been held in April 2018 with CNBMGT, Tianshengda, GEM and other Chinese graphite groups to progress offtake discussions. Volt is now in the process of completing the final binding offtake agreements for substantially all of Stage 1 annual production. These offtake agreements are in addition to the existing binding offtake agreement with US based graphene company, Nano Graphene Incorporated.

Stage 1 will produce on average 23,700tpa of natural flake graphite product up to 96% TGC, with the majority of sales to China being the biggest market for flake graphite. Volt has worked with the customer groups that it is in discussion with to reduce the processing on the +100# product to increase the yield, flake size and target a lower grade (around 92%TGC). This has been confirmed in metallurgical testwork on diamond drill core in 2017 and for the feasibility metallurgical testwork and flowsheet development in the 2018 FS.

A portion of annual flake graphite product tonnage from Stage 1 will allow for sales to potential customer groups that require larger sample shipments to commit to contracts for the Stage 2 development.

Forecast pricing across the relevant flake sizes, purity and product types has been sourced from a combination of bespoke industry reports and material including research bodies, BMI and Industrial Minerals and Canaccord research. Shorter term pricing also reflects current industry reporting and discussions with end users.

Product size, grade distribution and average sales price is shown in Table 12.

**Table 12: Graphite product size, grade distribution and average sales price**

Size (µm)	Size (#)	% Distribution	% TGC	Price US\$/tonne
+500	+32	1	95	2,530
+300	+50	11	93	1,990
+180	+80	27	92	1,077
+150	+100	15	92	985
-150	-100	46	96	704
	Total	100		<b>1,195</b>

Expected average product basket price for Stage 1 based on the TGC grade, product size distribution and pricing is US\$1195/t (CIF Qingdao). Prices are based on forecast annual prices for the 7 year life of Stage 1.

By Year 3 the Company plans to develop a third party SPG processing arrangement whereby fines products below 106 micron will be treated to produce uncoated spheroidised and purified (SPG) anode feedstock to market to battery cell manufacturers. It is assumed SPG product recovery of 50% will be achieved with the remaining 50% sold into the recarburizer and other existing and developing micro carbon product markets. The processing cost assumptions have been based on the AOYU cooperation agreement, discussions and site visits in mid-2017. Further discussions with third parties have identified other opportunities for toll processing or SPG joint venture or profit sharing arrangements.

### **Key Study Contributors:**

The consultants listed in table 13 contributed to the key components of the FS.

**Table 13: Contributing Consultants to the FS**

Content	Contributor
Key FS Management	BatteryLimits
Geology and Resources	Optiro
Geotechnical	PSM
Hydrology	AQ2
Mining	Orelogy
Metallurgy	BatteryLimits, ALS
Processing	BatteryLimits
Engineering	BatteryLimits
Tailings	ATC Williams
Power, Water, Infrastructure and Logistics	BatteryLimits, AQ2 and Volt
Project Implementation Schedule and Plan	BatteryLimits and Volt
Human Resources	P5 HR Consulting Limited, Volt
Capital Cost Estimates	BatteryLimits
Operating Cost Estimates	BatteryLimits, Orelogy and Volt
Marketing	Volt, Industrial Minerals
Financial Assessment	Volt and Modus Capital
Permitting and Environment	TanSHEQ and Volt

### **Stage 1 Development Funding:**

As announced on 27 March 2018, the Company has prepared and lodged a prospectus with the Tanzanian regulators, the Dar es Salaam Stock Exchange and the Capital Markets and Securities Authority, seeking to raise US\$40 million through the issue of Tanzanian listed Notes (**Bonds**).

Comments on the prospectus have been received from the relevant Tanzanian regulators and the Company is now seeking to finalise the prospectus. Once the content of the prospectus and other matters have been agreed, the Company expects to issue the prospectus to qualified institutional buyers and sophisticated investors in East Africa. The prospectus remains open for 10 business days following which the Company will proceed to a development decision on the Bunyu Stage 1 project.

Funds raised from the issue of the Bonds are expected to be used to cover the Bunyu Stage 1 development costs, interest during construction and the costs associated with the Bond issue. Any additional project development capital required (if any) is likely to be funded from a combination of debt, equity or product off-take pre-commitments.

**Next Steps:**

Volt is currently completing the environmental approval for the Bunyu project and has lodged two mining licence applications covering the footprint for Stage 1 and the Stage 2 expansion project. Concurrently it is working with Exotix Capital and other advisers to seek approval for and issue a prospectus to raise the development capital for the Stage 1 development of the Bunyu Project.

The Company is also completing offtake agreements with Chinese partners for most of Stage 1 annual flake graphite production. The key plant construction contract and a number of other work packages will also be entered into in readiness for the commencement of construction.

Once funding is obtained, the Company will proceed with the Front End Engineering and Design for Stage 1 and place orders for long lead time components.

Concurrent with the Stage 1 development, Volt plans to commence work on the definitive feasibility study for the Stage 2 expansion.

*For and on behalf of Volt Resources Limited*

**Trevor Matthews**  
**Chief Executive Officer**

**For further information please contact:**

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**About Volt Resources Limited**

Volt Resources Limited is a graphite exploration company listed on the Australian Stock Exchange under the ASX code: VRC. Volt Resources is focused on the exploration and development of its existing wholly-owned Bunyu Graphite Project in Tanzania. As of December 2016, the Bunyu Project is the largest JORC Mineral Resource deposit in Tanzania with 461Mt @ 4.9% TGC (comprising 20Mt Measured Mineral Resources @ 5.3% TGC, 155Mt Indicated Mineral Resources @ 5% TGC and 286Mt Inferred Mineral Resources @ 4.9% TGC), with 22.6Mt of contained graphite<sup>1</sup>. The Bunyu Project is ideally located near to critical infrastructure with sealed roads running through the project area and ready access to the deep-water port of Mtwara 140km away.

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<sup>1</sup> Refer to Volt's ASX announcement titled "Pre-feasibility Study Completed" dated 15 December 2016. The Company confirms that it is not aware of any new information or data that materially affects the information included in this document and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

## **Competent Person Statement**

The information in this document that relates to Mineral Resources is based upon information compiled by Mrs Christine Standing who is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mrs Standing is an employee of Optiro Pty Ltd and has sufficient experience relevant to the style of mineralisation, the type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mrs Standing consents to the inclusion in the report of a summary based upon her information in the form and context in which it appears.

The information in this document that relates to Ore Reserves was compiled by Mr Ross Cheyne who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Cheyne is a Director of Orelogy Consulting Pty Ltd and has sufficient experience relevant to the style of mineralisation, the type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Cheyne consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.

## Appendix One

### ASX Listing Rule 5.9.1

Pursuant to ASX Listing Rule 5.9.1, and in addition to the information contained elsewhere in this release (including Appendix Two), Volt provides the following:

Summary of JORC Table 1 Section 1, 2 and 3:

- Geology and geological interpretation – the graphite mineralisation is hosted within a sequence of gneiss and schists and is generally sub-horizontal. The higher grade graphite mineralisation was interpreted as sub-horizontal layers using a nominal cut-off grade of 3.5% TGC. A fault off-set has been interpreted with the mineralised layers in the south-west displaced downwards relative to the mineralised layers in the north-east. The main zones of mineralisation extends over an area of 3 km along strike, 800 m to 1.3 km across strike and from surface to a drilled depth of approximately 150 m below surface.
- Drilling method – the drilling method used is reverse circulation (RC) using 140 mm face sampling hammers and Triple Tube HQ diamond core holes (63 mm).
- Sampling – one-metre drill chip samples were collected throughout the RC drill programme in sequentially numbered bags. Core samples from diamond drillholes were collected based on geology, varying in thickness from 0.01 m to 3.0 m intervals. Almost 80% of the samples are from 1 m intervals, 20% from <1 m intervals and 0.1% from intervals of >1 m
- Sub-sampling – RC samples were split to 1.5kg samples for analysis and for the diamond core the quarter core was used for analysis. Pulverising was completed using LM5, 90% passing 75µm in preparation for analysis.
- Sample analysis method – the 2015 and 2017 drill samples were sent to SGS in Mwanza, Tanzania for sample preparation before being sent to SGS in South Africa for analysis for TGC using method GRAP\_CSA05V LECO Total Carbon, for sulphur using method CSA06V and for total carbon using method CSA01V. Samples from the 2016 drilling programme were sent to ALS in Mwanza before being sent to ALS in Brisbane, Australia for analysis for TGC using method C-IR18, for sulphur using method S-IR08 and for total carbon using method C-IR07. SGS South Africa (Pty) (Ltd) used ISO and ALS Minerals used established standards and are NATA-registered. Duplicate analysis and analysis of Certified Reference Material (standards) and blanks was completed and no issues identified with sampling or assaying reliability.
- Resource Classification – on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) and the distribution of the metallurgical testwork samples as criteria. In general, the areas tested with the 2017 infill drilling (40 m by 40 m spacing), that have high confidence in the geological interpretation, higher estimation quality are classified as Measured. Areas with lower confidence in the geological interpretation and poorer estimation quality were classified as Indicated. Areas where the drill spacing is generally 200 m by 400 m are classified as Inferred. In addition, the likelihood of eventual economic extraction was considered in terms of possible open pit mining, metallurgical testwork results, marketing agreements and potentially favourable logistics to the Mtwara Port, which all support the classification, as per Clause 49 (JORC 2012).
- Estimation methodology – resources estimation was undertaken using ordinary kriging. The search ellipse was oriented within the plane of mineralisation.
- Cut-off parameters – the resource model is reported above a 2.93% TGC cut-off grade. This cut-off grade was selected by Volt Resources based on technical and economic assessment of the mineralisation within the Stage 1 FS pits by Orelogy.



- Metallurgical methods – no metallurgical assumptions have been built into the resource models. Metallurgical results related to flake size and sample purity, the continuity of the flake size data, and the available process testwork are considered favourable and BatteryLimits has reported that products produced from the 2018 metallurgical testwork are within the typical saleable size and grade.

Summary of JORC Table 1 Section 4:

- The Bunyu Stage 1 FS Ore Reserve is considered a subset of the 2016 Namangale 1 Ore Reserve released by Volt Resources 15 December 2016 as part of the 2016 Namangale Pre-Feasibility Study. It therefore does not replace or update this reserve and is for the purposes of underpinning the Stage 1 FS. The Namangale (now Bunyu) overall Ore Reserve will be updated as part of the Bunyu Stage 2 DFS.
- The Bunyu Stage 1 FS is based around a targeted project production rate over a 7 year period. It does not reflect the ultimate economic extent of the Bunyu 1 project. Hence the sensitivity of the ultimate project limits has not been tested as part of the Bunyu Stage 1 FS. The supporting data around geotechnical and metallurgical parameters are also focused around the Stage 1 area and currently do not support generating an ultimate economic pit for the entire Bunyu 1 deposit at an FS standard. It should be emphasised that this is not a reflection of the level of confidence in the FS, but is due to the limited extent of the Stage 1 project.
- The Bunyu Stage 1 FS Ore Reserve is based entirely on estimated Measured and Indicated Resources and has had all appropriate environmental & economical exclusions applied to it.
- Mining modifying parameters – planned extraction is by open pit mining and appropriate mining factors for dilution and ore loss have been applied to the Mineral Resource model in order to generate the Resources which are proposed to be mined as part of Bunyu Stage 1.
- The Resources which are proposed to be mined as part of Bunyu Stage 1 have been reported at the processing cut-off grade of 2.93%. This is a diluted cut-off grade as dilution has already been accounted for as part of the block model regularisation process.
- Modifying factors related to mining costs are based on budget pricing submissions for African based mining contractors
- Modifying factors related to pit wall design criteria are based on the geotechnical recommendations provided by independent geotechnical consultant Pells Sullivan Meynink.
- Modifying factors related to processing costs and recoveries have been supplied by lead engineering group BatteryLimits
- Modifying factors related to commodity price have been supplied by Volt Resources based on independent market research
- The Bunyu Stage 1 FS mining schedule based on achievable production rates for the specified size of mining fleet
- The presence of significant amounts of potentially acid forming (PAF) mine waste rock has been addressed in the FS, with details around operational management, procedures and controls and appropriate allowances for related costs.

## Appendix Two

The table below summarises the assessment and reporting criteria used for the 2018 Bunyu 1 resource model and reflects the guidelines in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<p><b>1. Reverse Circulation</b></p> <ul style="list-style-type: none"> <li>RC drill samples were collected at one-metre intervals.</li> <li>The full 1m interval was collected before being weighed then riffle spilt into samples weighing approximately 1.5 kg.</li> <li>All samples were geologically logged by a suitably qualified geologist and mineralised intercepts selected for analysis.</li> <li>Duplicate and standards analysis were completed and no issues identified with sampling reliability.</li> <li>Sampling was guided by Volt Resources Limited's protocols and QAQC procedures.</li> </ul> <p><b>2. Diamond Drilling</b></p> <ul style="list-style-type: none"> <li>For the diamond core drillholes sampling was carried out by cutting HQ diamond core into quarters.</li> <li>Composite samples for metallurgical analysis were selected based on lithology intervals as logged by a suitably qualified geologist.</li> <li>Samples were crushed to 1mm, split into the respective size fractions and sent for flake size analysis.</li> <li>Mineralised intercepts selected for analysis vary from 0.01 m to 3 m.</li> <li>Duplicate and standards analysis were completed and no issues identified with sampling reliability.</li> <li>Sampling was guided by Volt Resources Limited's protocols and QAQC procedures.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>RC drilling was conducted by JCIL Drill. Bit diameter was 4.5 inches (114 mm) face sampling bit.</li> <li>Diamond drilling was conducted by JCIL drill using HQ core diameter triple tube (63 mm).</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias</li> </ul>	<ul style="list-style-type: none"> <li>RC recovery was recorded by weighing the recovered sample before splitting. Sample size was databased and found to be consistent.</li> <li>Diamond drill recovery was excellent (&gt;90%) and is therefore not expected to</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>may have occurred due to preferential loss/gain of fine/coarse material.</i>	influence grade.
<b>Logging</b>	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Logging was carried out on each of the samples including lithology, amount of weathering by a suitably qualified geologist.</li> <li>• 100% of the samples were logged</li> <li>• Data is initially conducted on paper logging sheets and is then transferred to Excel logging sheets.</li> <li>• Logging is semi-quantitative based on visual estimation.</li> <li>• The specific gravity data was collected from drill core using Archimedes principle water displacement methodology.</li> <li>• Core was orientated, marked into 1 m intervals, core recovery and geotechnical data – Rock Quality Designation were recorded.</li> <li>• Core was photographed, both dry and wet.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sampling was guided by Volt Resources Limited’s protocols and QAQC procedures.</li> <li>• RC samples were taken at 1 m intervals and then split into 1.5 kg samples with a reference sample also taken.</li> <li>• For the diamond core, the quarter core was used for analysis.</li> <li>• All the samples are marked with unique sequential numbering as a check against sample loss or omission.</li> <li>• Samples were crushed and pulverised using LM5, 90% passing 75 µm in preparation for analysis.</li> <li>• For the 2015 and 2016 drill samples blank, standard and duplicate samples were inserted at a ratio of 1:20.</li> <li>• For the 2017 drill samples duplicates were inserted at a ratio of 1:12 and standards and blanks at a ratio of 1:8 in total.</li> <li>• All sampling was carefully supervised with ticket books containing pre-numbered tickets placed in the sample bag and double checked against the ticket stubs and field sample sheets to guard against a loss of sample integrity.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Analysis for total graphitic carbon (TGC) and sulphur has been carried out by industry accepted and recognised laboratories. SGS South Africa (Pty) (Ltd) used ISO and ALS Minerals used established standards and are NATA-registered.</li> <li>• The 2015 and 2017 drill samples were sent to SGS in Mwanza, Tanzania for sample</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>preparation before being sent to SGS in South Africa for analysis for TGC using method GRAP_CSA05V LECO Total Carbon, for sulphur using method CSA06V and for total carbon using method CSA01V.</p> <ul style="list-style-type: none"> <li>• Samples from the 2016 drilling programme were sent to ALS in Mwanza before being sent to ALS in Brisbane, Australia for analysis for TGC using method C-IR18, for sulphur using method S-IR08 and for total carbon using method C-IR07.</li> <li>• For the 2015 and 2016 drill samples blank, standard and duplicate samples were inserted at a ratio of 1:20.</li> <li>• For the 2017 drill samples duplicates were inserted at a ratio of 1:12 and standards and blanks at a ratio of 1:8 in total.</li> <li>• Duplicate analysis was completed and no issues identified with sampling representatively.</li> <li>• Analysis of the QAQC data indicates that the data is suitable for Mineral Resource estimation.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• QAQC protocols were adopted for the drill programmes.</li> <li>• During the site visit the CP for the Mineral Resource reviewed RC chips and DD core against the assay results.</li> <li>• Volt Resources engaged CSA Global to compile and maintain the database. CSA Global validated the assay data as it was received, which included analysis of the QAQC data. All discrepancies in the data were queried with the laboratory and resolved prior to data provision of the MS Access database to Optiro for resource estimation.</li> <li>• There are four DD holes that twinned earlier RC drillholes.</li> <li>• No adjustments have been applied to the results.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data for Bunyu 1 has been surveyed in ARC 1960 grid and UTM datum Zone 37 south.</li> <li>• All drillholes were pegged using a hand-held GPS. The drillhole collars were then surveyed using a hand-held DGPS with a horizontal accuracy of 1.5 m.</li> <li>• In 2016 an aerial topographical survey was undertaken by Gleam Company for the Bunyu 1 project area. Corrections were made to this by ROM Resources for the 2016 resource estimate.</li> <li>• The drillhole collars for the 2018 resource model were adjusted to the topographic surface.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• In 2016 the holes were drilled on 200 m to 400 m spaced sections on either a 100 m or 200 m spacing.</li> <li>• Infill drilling during 2017 was on a spacing of 40 m by 40 m.</li> <li>• Geological interpretation and mineralisation continuity analysis indicates that data spacing is sufficient for definition of a Mineral Resource.</li> <li>• All RC samples are taken over intervals of 1 m.</li> <li>• DD core sampling was based on geological boundaries with a general maximum limit of 1 m thickness.</li> <li>• Almost 80% of the samples were taken over an interval of 1 m.</li> <li>• Samples were composite to 1 m down-hole intervals for resource estimation.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Interpretation of the relationship between the drilling orientation and the orientation of key mineralised structures indicates that mineralisation is likely to be perpendicular to strike continuity.</li> <li>• The orientation of drilling is not expected to introduce sampling bias.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A unique sample number was retained during the whole process.</li> <li>• Samples were placed in sacks that were cable tied.</li> <li>• Transportation is carried out by company staff driving the samples to the preparation laboratory in Mwanza directly from site.</li> <li>• Loss of data by theft, fire or computer virus attack is minimised by ensuring that the updated database, scanned documents and photographs are immediately distributed to the geological team via emails.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sampling techniques and core mark-up was reviewed during the Mineral Resource CP site visit.</li> <li>• Laboratories have not been audited - QAQC data indicates sample preparation and analysis is to a high standard.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites,</i></li> </ul>	<ul style="list-style-type: none"> <li>• The Bunyu 1 deposit is within prospecting license PL10718 which was granted on 18 September 2015 for a period of four years for the exploration of graphite.</li> <li>• The Bunyu Project PLs are held by Volt</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>wilderness or national park and environmental settings.</p> <ul style="list-style-type: none"> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<p>Graphite Tanzania Ltd (formerly Nachi Resources Limited) which in turn is 100% owned by Volt Resources Limited.</p> <ul style="list-style-type: none"> <li>The surface area is administered by the Government as native title. The area is rural, with wilderness areas and subsistence farming.</li> <li>The tenements are subject to a 3% royalty on production to the previous owners of Nachi Resources, which can be reduced to 1.5% under an agreement with the previous owner. There are no other known issues that may affect the tenure.</li> <li>On 8 February 2018, Volt Resources announced that it had lodged two Mining Lease applications that cover the Bunyu 1 deposit and surrounding areas.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>There is no written record of previous exploration available for this area that is known to Volt Resources.</li> <li>The location of some graphite outcrops within the Bunyu Project area was known by the previous owners.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The graphite mineralisation occurs in Archean basement rocks of the Mozambique Belt system which principally comprise metamorphic rocks ranging from schist to gneisses including marbles, amphibolite, graphitic schist, mica and kyanite schist, acid gneisses, hornblende, biotite and garnet gneisses, quartzite, granulite, and pegmatite veins.</li> <li>Exploration has focused on areas where there is no or minimal overlying younger sedimentary sequences remaining (mostly Cretaceous sandstones and conglomerates).</li> </ul>
<b>Drillhole Information</b>	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: <ul style="list-style-type: none"> <li>easting and northing of the drillhole collar</li> <li>elevation or RL (elevation above sea level in metres) of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resources area.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resources area.</li> <li>Metal equivalent values have not been used.</li> <li>A nominal 3.5% total graphitic carbon lower cut-off has been applied in the determination of significant higher grade intercepts.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.</li> </ul>	<ul style="list-style-type: none"> <li>Drillholes intersected mineralisation at near perpendicular to the strike orientation of the host lithologies.</li> <li>Drill lines are planned to be as close as possible to right angles to the mapped mineralisation.</li> <li>Exploration results are not being reported for the Mineral Resources area.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Relevant diagrams have been included within this announcement.</li> <li>Exploration results are not being reported for the Mineral Resources area.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resources area.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Exploration results are not being reported for the Mineral Resources area.</li> <li>Previous results from the Bunyu Project include Ground EM surveys, mapping, trenching, rock chip sampling. All of the results of this work were previously reported.</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> </ul>	<ul style="list-style-type: none"> <li>Follow-up drill RC and diamond core drill testing to further confirm extensions of graphite mineralisation and to extend the Measured and Indicated Mineral Resources.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Data used for the resource model is sourced from an export out of the Microsoft Access Database that was compiled and maintained by CSA Global, on behalf of Volt Resources</li> <li>Relevant tables from the database are exported to MS Excel format and converted to csv format for import into Datamine software for use in the resource model.</li> <li>Validation of the data import includes, amongst others, checks for drillhole collar discrepancy against topography,</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.</p> <ul style="list-style-type: none"> <li>• Additional data validation, by Optiro, included checking for out of range assay data and overlapping or missing intervals.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A site visit to the Bunyu 1 deposit was undertaken by Mrs Christine Standing (Principal Consultant, and CP for the resource model) during December 2017.</li> <li>• During the site visit drill sites were inspected, drillhole sampling and logging procedures, density measurement procedures were reviewed, sample packing and dispatch was inspected and the geological model was reviewed.</li> <li>• There were no negative outcomes from any of the above items, and samples and geological data were deemed fit for use in the preparation of the resource model.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Confidence in the geological interpretation of the deposit is high in areas of close spaced drilling and moderate elsewhere.</li> <li>• The geological confidence has been considered for classification of the resource.</li> <li>• Mineralisation is hosted within a sequence of gneiss and schists.</li> <li>• The mineralisation is generally sub-horizontal. A fault off-set has been interpreted with the mineralised layers in the south-west displaced downwards relative to the mineralised layers in the north-east.</li> <li>• Geological interpretation was completed on a sectional basis, from which six mineralised layers (four to the north of the fault off-set and two to the south of the fault off-set) were identified that are intersected by the Stage 1 pit designs at Bunyu 1 or above the main layer of mineralisation within the southern area.</li> <li>• There are additional mineralised layers at depth and to the east of the main mineralisation. Geological interpretation has identified additional mineralised layers: seven within the northern area, eight within the south area and two within the eastern area. These were not included in the resource model.</li> <li>• No alternative interpretations were considered. The sectional interpretation was developed by Volt Resources following extensive logging of the infill drillhole data. The assay results, obtained after the</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>sectional interpretation was completed, supported this interpretation.</p> <ul style="list-style-type: none"> <li>The mineralisation domains were defined using grade constraints. A nominal cut-off grade of 3.5% TGC was used to define boundaries between higher grade mineralised domains and the lower grade and the weakly or non-mineralised domains.</li> <li>Weathering domains representing colluvium, oxidised, transitional and fresh were modelled and were used to assign different density values and for TGC and sulphur grade estimation outside of the higher grade mineralised domains.</li> </ul>
<b>Dimensions</b>	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>The main zones of mineralisation extend over an area of 3 km along strike, 800 m to 1.3 km across strike and from surface to a drilled depth of approximately 150 m below surface.</li> <li>The Bunyu 1 mineralisation remains open to the north-east (where it is under a thick sedimentary sequence), to the south-west and at depth.</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data</i></li> </ul>	<ul style="list-style-type: none"> <li>Drillhole sample data was flagged from the interpretations of the mineralised domains.</li> <li>Sample data was composited to a 1 m downhole length.</li> <li>Data has a low coefficient of variation. Two outlier values were top-cut to 16% TGC.</li> <li>The global Mineral Resource was estimated and reported in December 2016 by ROM Resources. This resource model extended at depth and laterally compared to the 2018, model which was restricted to resource estimation within the mineralised layers intersected by the Stage 1 pit designs and included the mineralisation above the main mineralised layer in the southern area.</li> <li>TGC mineralisation continuity was interpreted from variogram analyses to have a horizontal range of 190 m to 275 m along strike and 100 m to 155 m across strike,</li> <li>The majority of the Bunyu 1 deposit was tested by the 2015 drilling programme that was at a nominal spacing of 200 m across strike on section lines spaced at 400 m along strike. The 2016 drilling programme infilled areas to a nominal spacing of 100 m across strike on section lines spaced at 200 m along strike. In 2017, an infill drilling</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>to drillhole data, and use of reconciliation data if available.</i></p>	<p>programme was conducted within the upper, central zone of Bunyu 1 at a spacing of approximately 40 m to 40 m.</p> <ul style="list-style-type: none"> <li>• A twin drilling programme confirmed the RC drillholes could be used with the diamond core samples for grade estimation.</li> <li>• The maximum extrapolation distance is 75 m along strike. The interpretation is constrained by drilling in the across strike direction and the interpretation is extended to half the drill spacing.</li> <li>• Grade estimation was into parent blocks of 30 mE by 30 mN on 2 m benches. Block size was selected based on kriging neighbourhood analysis.</li> <li>• No selective mining units were assumed in the model.</li> <li>• Estimation of TGC and sulphur was carried out using ordinary kriging at the parent block scale and using Datamine software.</li> <li>• Sulphur is not correlated with TGC and both variables were modelled independently.</li> <li>• The search ellipses were oriented within the plane of the mineralisation.</li> <li>• Three estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two times the initial search and the third search was up to six times the initial search, with reduced sample numbers required for estimation.</li> <li>• Around 65% of the TGC block grades were estimated in the first pass, 30% in the second pass and the remaining 5% in the third search pass.</li> <li>• The estimated TGC block model grades were visually validated against the input drillhole data, comparisons were carried out against the drillhole data and by northing, easting and elevation slices.</li> <li>• The non-grade element estimated is sulphur (S%). Sulphur may impact on metallurgical processing and is considered a deleterious element in some graphite deposits</li> <li>• Maximum continuity ranges for the flake size are 380 m along strike (055°) and 200 m across-strike (325°).</li> <li>• No mining has taken place; therefore, no reconciliation data is available.</li> </ul>
<p><b>Moisture</b></p>	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture</i></li> </ul>	<ul style="list-style-type: none"> <li>• Tonnes have been estimated on a dry basis.</li> <li>• Moisture content has not been tested.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>content.</i>	
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The resource model is reported above a 2.93% TGC cut-off grade. This cut-off grade was selected by Volt Resources based on technical and economic assessment of the mineralisation within the Stage 1 FS pits by Orelogy.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous.</li> </ul>	<ul style="list-style-type: none"> <li>Planned extraction is by open pit mining involving standard truck and haul mining techniques.</li> <li>The geometry of the deposit will make it amenable to mining methods currently employed in many surface operations in similar deposits around the world.</li> <li>Mining factors such as dilution and ore loss have not been applied.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.</li> </ul>	<ul style="list-style-type: none"> <li>No metallurgical assumptions have been built into the resource models.</li> <li>The results from metallurgical testwork have been considered for Mineral Resource classification.</li> <li>Results to date demonstrate that products produced by conventional processing techniques are within the typical saleable size and grade.</li> <li>2018 testwork results indicate that recoveries of TGC of 91% to 96.5% can be achieved from the rougher concentrate.</li> <li>For three of the four samples 25 to 33% of the flakes are <math>\geq 180 \mu\text{m}</math>. The flake size within the concentrate developed from fresh material is finer (with 20% <math>\geq 180 \mu\text{m}</math> and 30% <math>\geq 150 \mu\text{m}</math>).</li> <li>Some 1 m samples from 11 randomly selected drillholes were tested for a comprehensive suite of trace elements. Vanadium ranged from 135 to 937 ppm.</li> </ul>
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation.</li> </ul>	<ul style="list-style-type: none"> <li>No assumptions have been made regarding waste and process residue.</li> <li>Environmental studies are being undertaken as part of the Feasibility Study</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and</li> </ul>	<ul style="list-style-type: none"> <li>Bulk density was measured for 730 core samples from diamond holes using Archimedes and caliper measurements.</li> <li>The density data has a range of 1.25 to 3.73 t/m<sup>3</sup>.</li> <li>Analysis of this data indicated that there is a relationship with oxidation.</li> <li>A bulk density of 1.92 t/m<sup>3</sup> was assigned to colluvium, 2.07 t/m<sup>3</sup> was assigned to the</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>alteration zones within the deposit.</i></p> <ul style="list-style-type: none"> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<p>oxidised material, 2.50 t/m<sup>3</sup> was assigned to the transitional material and 2.64 t/m<sup>3</sup> was assigned to the fresh material.</p>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) and the distribution of the metallurgical testwork samples as criteria.</li> <li>• In general, the areas tested with the 2017 infill drilling (40 m by 40 m spacing), that have high confidence in the geological interpretation and higher estimation quality are classified as Measured.</li> <li>• Areas with lower confidence in the geological interpretation and poorer estimation quality were classified as Indicated.</li> <li>• Areas where the drill spacing is generally 200 m by 400 m and mineralised domains at depth that are classified as Inferred.</li> <li>• The available process testwork indicates that likely product quality is considered favourable for eventual economic extraction.</li> <li>• In addition, the likelihood of eventual economic extraction was considered in terms of possible open pit mining, and potentially favourable logistics to the Mtwara Port.</li> <li>• Based on this, and taking into consideration the thickness, grades and depth of the deposit, it is considered that the Bunyu 1 deposit has a reasonable prospect of eventually being mined.</li> <li>• Metallurgical results related to flake size and sample purity, the continuity of the flake size data, project location and marketing agreements all support the classification, as per Clause 49 (JORC 2012).</li> <li>• The classification considers all available data and quality of the estimate and reflects the Competent Person's view of the deposit.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The resource model has been peer reviewed by Optiro staff.</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if</i></li> </ul>	<ul style="list-style-type: none"> <li>• The assigned classification of Measured, Indicated and Inferred reflects the Competent Person's assessment of the accuracy and confidence levels in the resource model.</li> <li>• The confidence levels reflect production</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>local, state the relevant tonnages, which should be relevant to technical and economic evaluation.</i>	volumes on a quarterly basis.

#### **Section 4: Estimation and Reporting of Ore Reserve for the Bunyu Stage 1 FS**

The table below summarises the assessment and reporting criteria used for the Bunyu Stage 1 FS Ore Reserve and reflects both the guidelines in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012) and the requirements for a feasibility study to be underpinned by an Ore Reserve. The Bunyu Stage 1 Ore Reserve is considered a subset of the 2016 Namangale 1 Ore Reserve released by Volt Resources 15 December 2016 as part of the Pre-Feasibility Study. It therefore does not replace or update this reserve and is for the purposes of underpinning the Stage 1 FS. The Namangale (now Bunyu) overall Ore Reserve will be updated as part of the Bunyu Stage 2 DFS.

Criteria	JORC Code explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserve</b>	<ul style="list-style-type: none"> <li><i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</i></li> <li><i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserve.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Mineral Resource Estimate used to develop the 2018 Bunyu 1 Mineral Resource Estimate is classified a JORC 2012 Mineral Resource statement by Volt Resources. The 2018 Bunyu 1 Mineral Resource Estimate was completed by Christine Standing (the Competent Person) of Optiro Pty Ltd.</li> <li>The 2018 Mineral Resources are reported inclusive of the Bunyu Stage 1 FS Ore Reserve. The Ore Reserve does not include Inferred Mineral Resources.</li> <li>The 2018 Bunyu 1 Mineral Resource Estimate contains no allowances for mining related ore dilution or ore losses</li> <li>The Bunyu Stage 1 FS only assesses a very small portion of the Bunyu 1 deposit relevant to the feasibility area. The entire Bunyu deposit will be assessed as part of a subsequent Stage 2 assessment and an updated Bunyu Ore Reserve will be released at this point. Consequently, the Ore Reserve developed as part of the Stage 1 FS is referred to as the Bunyu Stage 1 FS Ore Reserve.</li> <li>Due to the scale of the Bunyu Stage 1 FS, the Stage 1 Ore Reserve does not define an ultimate economic limit. A considerable proportion of the 2018 Bunyu 1 Mineral Resource has not been assessed for economic viability as part of the Stage 1 FS.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li><i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>A site visit was undertaken by Mr Ross Cheyne, Director of Orelogy Consulting Pty Ltd and Competent Person for the Bunyu Stage 1 Ore Reserve. The purpose of the visit was to assess the site conditions, layout and inspect drill core as available to confirm the appropriateness of the Ore</li> </ul>

		<p>Reserve</p> <ul style="list-style-type: none"> <li>All other key relevant disciplines have undertaken site visits and provided input into both the planned development and the Bunyu Stage 1 FS Ore Reserve.</li> </ul>
<b>Study status</b>	<ul style="list-style-type: none"> <li><i>The type and level of study undertaken to enable Mineral Resources to be converted to an Ore Reserve.</i></li> <li><i>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></li> </ul>	<ul style="list-style-type: none"> <li>The development of the mine plan and associated economic evaluation of the Bunyu Stage 1 FS has been completed to a FS level of accuracy of +/- 15%.</li> <li>The Ore Reserve was underpinned by a mine plan detailing mining locations, ore and waste quantities; mill feed quantities and mill head grades. Scheduling was undertaken in monthly and quarterly periods.</li> <li>Mine planning activities included an updated pit optimisation, mine design, scheduling, mining cost estimation and financial analysis in order to confirm the ability to economically mine the Bunyu Stage 1 FS Ore Reserve.</li> <li>Modifying factors considered during the mine planning process included slope design criteria, mining dilution and ore loss, processing recoveries, processing costs, general and administration costs, product price and royalties, engineering and infrastructure design, land access and permitting.</li> <li>The financial evaluation carried out as part of the Bunyu Stage 1 FS indicates that the Bunyu Stage 1 Graphite Project is technically achievable and economically viable. Financial modelling indicates it has an NPV of US\$18.6M (10% D.R.) and an IRR of 21.0% (pre-tax, US\$, real)</li> <li>The following groups have been utilised by Volt Resources for the FS and provided key inputs into developing the Bunyu Stage 1 FS Ore Reserve:</li> <li>Geology and Resources – Optiro <ul style="list-style-type: none"> <li>Geotechnical – Pells Sullivan Meynink</li> <li>Hydrology – AQ2</li> <li>Mining – Orelogy</li> <li>Metallurgy – BatteryLimits / ALS</li> <li>Processing – Battery Limits</li> <li>Engineering – Battery Limits</li> <li>Tailings – ATC Williams</li> <li>Power, Water, Infrastructure and Logistics – BatteryLimits / AQ2 / Volt</li> <li>Marketing – Volt / Industrial Minerals</li> <li>Financial Assessment – Volt / Modus Capital</li> </ul> </li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li><i>The basis of the cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>The cut-off grade used is the processing (or internal) cut-off grade (i.e. material is treated as ore if the recovered revenue exceeds the processing cost). This</li> </ul>

		<p>calculation excludes mining costs as these are treated as sunk when the decision is made to direct material to either the process plant or waste dump.</p> <ul style="list-style-type: none"> <li>• The Bunyu Stage 1 FS Ore Reserve is based on a Net Price which includes selling costs such as transport (trucking and shipping) and government and vendor royalties.</li> <li>• The processing cut-off grade is 2.93% TGC for Stage 1 FS Ore Reserve.</li> </ul>
<p><b>Mining factors or assumptions</b></p>	<p><i>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</i></p> <p><i>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</i></p> <p><i>The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre- production drilling.</i></p> <p><i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></p> <p><i>The mining dilution and mining recovery factors used.</i></p> <p><i>Any minimum mining widths used.</i></p> <p><i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></p> <p><i>The infrastructure requirements of the selected mining methods.</i></p>	<ul style="list-style-type: none"> <li>• Open pit optimisation proprietary software was utilised to determine the extent of the highest value pits that provide the required inventory for the Stage 1 project (approx. 2.8Mt). The optimisation process used initial estimates of the various modifying factors. However as the Stage 1 pits lay well within any final economic limit for Bunyu 1, the optimisation parameters were only critical in terms of generating shells of different relative size and value, not in confirming an ultimate economic pit limit..</li> <li>• The mining method is conventional truck and shovel open pit mining.</li> <li>• Bunyu 1 is suited to conventional open pit mining methods as: <ul style="list-style-type: none"> <li>- The deposit outcrops with limited initial overburden,</li> <li>- The deposit is generally flat lying with the pit designs which allows for selective mining with the small equipment proposed</li> <li>- There are several sub-parallel lenses that fall within the pit boundary resulting in a relatively low stripping ratio (0.73 waste : 1 ore).</li> </ul> </li> <li>• Suitable waste material from within the South Pit area will be utilised as bulk fill for construction of the Tailings Storage Facility and Water Storage Dam prior to mining commencing. Consequently, the mine production schedule generated for the FS consists of the Ore Reserve with an allowance for depletion of this volume of waste material.</li> <li>• The deposit will be mined on 6m high benches for blasting, but excavated in 3 x 2m high flitches to manage dilution.</li> <li>• Dilution and ore loss were applied by reblocking the 7.5mX x 7.5mY x 0.5mZ Resource block model to 7.5mX x 7.5mY x 2mZ Mining block model to reflect a minimum selective mining unit (i.e. 2m flitch height). The Bunyu Stage 1 FS Ore Reserve was then reported based on the diluted grade of the larger block. The</li> </ul>

		<p>resource model had been estimated on a domain boundary grade of 3.5% TGC, which is considerably higher than the calculated cut-off grade of 2.93%. Optiro had also estimate TGC into the domains outside of the 3.5%TGC boundaries. Orelogy treated these grades outside of the “ore” domains as a background diluent grade.</p> <ul style="list-style-type: none"> <li>• A minimum mining width of 20m was used for all pit designs.</li> <li>• Mine designs have been undertaken using the geotechnical recommendation provided by Pells Sullivan Meynink, independent geotechnical consultant appointed by Volt Resources who undertook a site geotechnical assessment. PSM provided specific berm, batter and inter-ramp angle recommendations for four (4) distinct weathering zones that were modelled in the Mineral Resource. PSM also undertook a review of the final pit designs to confirm they adhered to the design recommendations. The geotechnical investigation was focused on the area of the North and Central pits and was extrapolated to include the South Pit. The risk around any geotechnical uncertainty in the South Pit is mitigated by: <ul style="list-style-type: none"> <li>- The pits are relatively shallow, being a maximum of 45m below surface.</li> <li>- The South Pit is not commenced until Year 4, allowing more than enough time to undertake a suitable geotechnical assessment.</li> <li>- The pit in general has flatter slopes than the design recommendations.</li> </ul> </li> <li>• The mine schedule is based on achievable production rates for the specified size of mining fleet with only a single shift per day required at peak.</li> <li>• No inferred mineral resources have been used in the determination of the Bunyu Stage 1 FS Ore Reserve.</li> <li>• The proposed mining method requires the conventional mining infrastructure including but not limited to mining equipment workshop, fuel &amp; oil storage facilities, wash bay, offices, lunch and ablution facilities and a first aid room. These are to be supplied by the mining contractor. Volt Resources have defined a mining infrastructure area and will supply water to this location, with power supplied by the contractor.</li> <li>• Due to the low mining production rates it is envisaged limited explosives will be stored on site. Explosives will be trucked to site as</li> </ul>
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		required and an explosives magazine area has been demarcated by Volt Resources.
<b>Metallurgical factors or assumptions</b>	<p><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></p> <p><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></p> <p><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></p> <p><i>Any assumptions or allowances made for deleterious elements.</i></p> <p><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></p> <p><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></p>	<ul style="list-style-type: none"> <li>• The processing plant is designed to recover graphite concentrate by froth flotation. Ore will be crushed followed by grinding and graphite flotation. The final graphite product will be filtered, dried and bagged for transport and subsequent loading onto ships in sea containers.</li> <li>• A key objective of the plant design is to produce a marketable high-grade graphite product at the largest possible graphite flake size to maximise the value of the products produced.</li> <li>• The proposed flowsheet has been developed based on the metallurgical testwork undertaken to date and derived Process Design Criteria. The process plant design is based on a metallurgical flowsheet with unit operations that are conventional and well proven and aligned with current graphite industry practice.</li> <li>• The metallurgical testwork program conducted on Bunyu 1 used composite samples produced from drill core. Prior to the diamond drill core from the 2017 drill program becoming available an optimisation testwork program was conducted on remnant material from the 2016 bulk trench samples to investigate options for optimising the processing approach.</li> <li>• The outcomes were incorporated into the testwork undertaken on 2017 diamond drill core samples for the Stage 1 planned development. Testwork focused on grinding and flotation using both a composite and variability samples and was undertaken at ALS in Western Australia. Some comminution testwork was also undertaken.</li> <li>• The results from the recent testwork were similar to results from previous 2016 testwork and demonstrated saleable graphite products can be readily produced. Overall the results indicate the variability in the Bunyu 1 project area is low.</li> <li>• Metallurgical testwork had not identified any deleterious elements.</li> </ul>
<b>Environmental</b>	<p><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></p>	<ul style="list-style-type: none"> <li>• An Environmental and Social Impact Study (ESIS) for the Bunyu Stage 1 FS has been completed and lodged. The ESIS is based on a significant body of work including flora and fauna surveys, heritage surveys, and stakeholder identification, including public consultation and the development of</li> </ul>

		<p>environmental and social monitoring and management plans.</p> <ul style="list-style-type: none"> <li>• The ESIS has been reviewed by the NEMC and Technical Advisory Committee which has included a site visit and technical review meetings and is now in the final stage prior to forwarding to the Minister for Environment for approval.</li> <li>• The key issue related to mining activities is the presence of potentially acid forming (PAF) material as part of the mine waste rock. It is possible that most of waste rock generated by the open pits will be acid forming to some degree. Procedures for the construction of the waste rock dump (WRD) and the management of any run-off from these facilities has been developed as part of the Bunyu Stage 1 FS. This includes (without limitation) base impermeability requirements, construction methodology, drainage control, capping and rehabilitation. Allowance has been made for cost related to the management and control of AMD</li> <li>• The approach for final mine closure will be assessed and managed as part of the Stage 2 process. A detailed AMD management plan will be developed as part of the post-feasibility FEED phase to be included in the operating protocols for the mining contract tender. The effectiveness of the proposed strategies for operational management and post-closure minimisation of AMD risk will be tested by numerical modelling, and validated by in situ monitoring and field trials. This will be scheduled well in advance of closure to confirm their effective performance.</li> </ul>
<p><b>Infrastructure</b></p>	<p><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></p>	<ul style="list-style-type: none"> <li>• No significant infrastructure currently exists at the project site. The infrastructure required has been designed and costed by BatteryLimits Pty Ltd as part of the FS.</li> <li>• Access to both Mtwara and Dar es Salaam is via the national highway B5 which lies approx. 12 km to the south of the Bunyu Stage 1 project area. The FS includes a design and cost estimate for upgrading the road from the Bunyu North turnoff on the B5 to site.</li> <li>• Power at site will be provided via diesel generator.</li> <li>• A Local Content Plan has been developed as part of the FS and the requirements of this plan will be key selection criteria for all service providers, including the mining contractor.</li> </ul>

		<ul style="list-style-type: none"> <li>• Accommodation for the Stage 1 workforce will be provisioned via a combination of locally sourced labour and a camp constructed at the site which has been allowed for in the FS cost estimate.</li> </ul>
<p><b>Costs</b></p>	<p><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></p> <p><i>The methodology used to estimate operating costs.</i></p> <p><i>Allowances made for the content of deleterious elements.</i></p> <p><i>The source of exchange rates used in the study.</i></p> <p><i>Derivation of transportation charges.</i></p> <p><i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></p> <p><i>The allowances made for royalties payable, both Government and private.</i></p>	<ul style="list-style-type: none"> <li>• Mining costs have been calculated based on the submissions received for a Request for Budget Pricing (RFPB) sent to a range of African based mining contractors. The submission has been adjusted to allow for the differences in the FS mine plan from the one presented in the RFBP. This includes: <ul style="list-style-type: none"> <li>- Overhaul rates for longer haulage distances</li> <li>- Additional site preparation requirements for dumps and stockpiles to cater for AMD</li> <li>- Ongoing AMD management</li> <li>- Dayworks</li> </ul> </li> <li>• The diesel fuel price was supplied by Volt Resources based on typical in country pricing.</li> <li>• The capital cost estimate has been compiled by BatteryLimits based on the design, supply, fabrication, construction and commissioning of a new graphite plant in Tanzania and includes supporting infrastructure and indirect costs. Mine establishment and infrastructure costs are included, but the cost of the mining fleet and associated infrastructure is financed by the mining contractor and covered by operating expenses (Opex).</li> <li>• The estimate for the process plant is based on the process design as documented in Process Design Criteria, process flowsheet, equipment list and plant layout plan. The plant estimate has been based upon budget price quotations for major equipment, in-house data from recent projects, preliminary MTO estimates for steel and concrete, and industry standard estimating factors for ancillary equipment and other installation costs.</li> <li>• The estimate incorporates direct costs and indirect costs but does <u>not</u> include allowances for: <ul style="list-style-type: none"> <li>- pre-implementation studies</li> <li>- financing</li> <li>- taxation</li> <li>- land access</li> <li>- mining rights</li> </ul> </li> <li>• Rehabilitation and closure have been assessed on the basis that the Stage 1 project is superseded by the Stage 2 project within the life of Stage 1.</li> </ul>

		<ul style="list-style-type: none"> <li>• The operating cost estimate for the project includes all costs associated with mining, processing, infrastructure and site-based general and administration costs. The operating costs have been developed in US\$ unless otherwise stated and unit rates and prices included have a base date of Q1 2018 with no allowance for escalation or inflation.</li> <li>• The operating costs have been compiled from a variety of sources, including: <ul style="list-style-type: none"> <li>- Budget quotations received from vendors and/or contractors</li> <li>- “Operating cost database” of the consultants</li> <li>- Wages and salaries developed from P5HR, a Tanzanian HR consultant</li> <li>- Estimates based on industry standards from similar operations</li> <li>- First principle estimates based on typical operating data</li> </ul> </li> <li>• Most equipment costs were quoted in South African Rand or US\$, and infrastructure costs were most commonly in US\$. All costs were converted to US\$ based on the exchange rates below. <ul style="list-style-type: none"> <li>- US\$1.00 = A\$1.29</li> <li>- US\$1.00 = 2,273 TZS (Tanzanian Shilling),</li> <li>- US\$1.00 = 13 ZAR (South African Rand),</li> <li>- US\$1.00 = € 0.84</li> </ul> </li> </ul> <p>A 3% government royalty and 3% vendor royalty has been allowed for in the financial evaluation.</p>
<p><b>Revenue factors</b></p>	<p><i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s)</i></p> <p><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></p>	<ul style="list-style-type: none"> <li>• Forecast pricing across the relevant flake sizes, purity and product types has been sourced from a combination of bespoke industry reports and material including research bodies, BMI and Industrial Minerals and Canaccord research. Shorter term pricing also reflects current industry reporting and discussions with end users.</li> <li>• An average basket price has been calculated for the Bunyu 1 deposit from the metallurgical testwork on size distribution, product quality and the assumed product revenues.</li> <li>• Sensitivity analysis was undertaken for five key economic drivers being graphite prices, feed grade, mineral recovery, capital expenditure and operating expenditure.</li> <li>• The sensitivity range used was +/- 30% and the revenue driver (price/grade/recovery) were seen to have the largest impact on project economics. Bunyu Stage 1 has relatively low sensitivity to capital expenditure, more so to operating expenditure.</li> </ul>

<p><b>Market assessment</b></p>	<p><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></p> <p><i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></p> <p><i>Price and volume forecasts and the basis for these forecasts.</i></p> <p><i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></p>	<ul style="list-style-type: none"> <li>• Market research by BMI, Industrial Minerals and Canaccord research. These indicate a steady appreciation in graphite prices over the next five years as demand for spherical graphite increases.</li> <li>• Volt Resources anticipate that most battery manufacturers will prefer naturally sourced graphite flake product as it is less costly and more environmentally friendly than synthetic graphite.</li> <li>• Securing offtake agreements has been viewed as a key requirement to development of the Project. Volt Resources has signed non-binding Cooperation Agreements and Term Sheets with leading end-user groups in China as follows: <ul style="list-style-type: none"> <li>- <b>CNBM General Technologies</b> (previously CNBMGM) 10,000-15,000 t/y for 5 years with a further 5 years mutual option to extend</li> <li>- <b>AOYU</b> 10-20,000 t/y off-take for 5 years with a further 5 years mutual option to extend.</li> <li>- <b>Qingdao Tianshengda Graphite Co. Ltd.</b> (Tianshengda) 5,000 t/y off-take for 5 years with a further 5 years mutual option to extend</li> <li>- <b>Qingdao Guangxing Electronics Material Co. Ltd.</b> (GEM) 5,000 t/y off-take for 5 years with a further 5 years mutual option to extend</li> </ul> </li> <li>• Volt Resources is now in the process of completing the final binding offtake agreements for substantially all of Stage 1 annual production. These offtake agreements are in addition to the existing binding offtake agreement with US based graphene company, Nano Graphene Incorporated which is in respect to a small tonnage of product in the graphene market.</li> </ul>
<p><b>Economic</b></p>	<p><i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></p>	<ul style="list-style-type: none"> <li>• The Bunyu Stage 1 FS schedule has been evaluated by Modulus Capital Pty Ltd using a detailed financial model. This demonstrates the Ore Reserve and associated Stage 1 FS schedule generates positive cash flows and acceptable return on investment over and above the capital and operating costs of the project.</li> <li>• The assumptions used in the Ore Reserve analysis are as follows: <ul style="list-style-type: none"> <li>- All Inferred material assigned zero value</li> <li>- 10% discount real</li> <li>- Variable price over life of project</li> </ul> </li> <li>• Sensitivity analysis has been undertaken which shows the project remains economic over an appropriate range of input parameters, given the accuracy of the study</li> </ul>

		on which this is based
<b>Social</b>	<i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i>	<ul style="list-style-type: none"> <li>Stakeholder consultations began in 2016 and the engagement process has continued during the subsequent ESIA process, and is ongoing. Overall the reception to mining in the area has been positive.</li> <li>A Resettlement Action Plan has been completed and all approvals for the compensation arrangements for approximately 1,100 people either farming and/or living within the mining licences area. The footprint of the compensation area incorporates the Stage 1 development and Stage 2 expansion project.</li> </ul>
<b>Other</b>	<p><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserve:</i></p> <ul style="list-style-type: none"> <li><i>Any identified material naturally occurring risks.</i></li> <li><i>The status of material legal agreements and marketing arrangements.</i></li> <li><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></li> </ul>	<ul style="list-style-type: none"> <li>No identifiable naturally occurring risks have been identified to impact the Bunyu Stage 1 FS Ore Reserve.</li> <li>Volt Resources has an existing binding offtake agreement with US based graphene company, Nano Graphene Incorporated. In addition Volt Resources have three signed Cooperation Agreements and / or Term Sheets with leading end-user groups in China. These demonstrate that sales of the products can be commercially achieved.</li> <li>Volt Resources has lodged two Mining Licence (“ML”) applications covering the 18km<sup>2</sup> footprint for Stage 1 and the Stage 2 expansion. The recent appointment of the Mining Commission has resulted in a large number of licence applications being approved. Once the environmental approval is obtained, Volt Resources expects the mining licences to be approved soon thereafter.</li> </ul>
<b>Classification</b>	<p><i>The basis for the classification of the Ore Reserve into varying confidence categories.</i></p> <p><i>Whether the result appropriately reflects the Competent Person’s view of the deposit.</i></p> <p><i>The proportion of Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></p>	<ul style="list-style-type: none"> <li>The Bunyu Stage 1 FS Ore Reserves comprise Measured Mineral Resource material converted to “Proved” reserves and Indicated Mineral Resource material converted to “Probable” reserves.</li> <li>In line with JORC 2012 guidelines, Inferred Mineral Resource material has not been included.</li> <li>Approx. 46% of the Bunyu Stage 1 FS Ore Reserve is Proved Reserves, with the remainder being in the Probable Reserve category.</li> </ul>
<b>Audits or reviews</b>	<i>The results of any audits or reviews</i>	<ul style="list-style-type: none"> <li>No external audits or reviews have been carried out to date</li> </ul>
<b>Discussion of relative accuracy/ confidence</b>	<i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed</i>	<ul style="list-style-type: none"> <li>As there is no current mining at Bunyu, reconciliation of the Bunyu Stage 1 FS Ore Reserve with production data cannot be undertaken.</li> <li>The Bunyu Stage 1 FS Ore Reserve is an outcome of a feasibility level study, the confidence of which is accepted to be +/- 15% globally.</li> </ul>

	<p><i>appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></p> <p><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <p><i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></p> <p><i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></p>	<ul style="list-style-type: none"> <li>• The Bunyu Stage 1 FS Ore Reserve is based around a targeted project production rate over a 7 year period. It does not reflect the ultimate economic extent of the Bunyu 1 project. Hence the sensitivity of the ultimate project limits has not been tested as part of the Stage 1 FS. The supporting data around geotechnical and metallurgical parameters are also focused around the Stage 1 area and currently do not support generating an ultimate economic pit for the entire Bunyu 1 deposit at an FS standard. The Namangale 1 (now Bunyu 1) Ore Reserve announced on 15 December 2016 remains valid and will be updated as part of the Stage 2 DFS.</li> </ul>
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