ASX ANNOUNCEMENT ASX: GPX

20 September 2018

UPDATED PRE-FEASIBILITY STUDY CONFIRMS EXCEPTIONAL ECONOMICS OF CHILALO PROJECT

HIGHLIGHTS

- **Robust financial returns at a project level for the Ore Reserve Case, based on independently derived commodity price assumptions:**
  - **Post-tax NPV (10% discount rate): US$273M**
  - **Post-tax internal rate of return (IRR): 130%**
  - **Post-tax payback period: 0.84 years**
- **Pre-production capital expenditure of approximately US$43.6 million for Stage 1 (including contingencies)**
- **Stage 2 capital expenditure of approximately US$32.5 million expected to be funded from free cash flow**
- **Average life of mine (LOM) operating cost of approximately US$479 per tonne FOB Mtwara Port**
- **Attractive forecast basket price of US$1,777 per tonne FOB Mtwara Port (current prices), delivering industry leading margins of US$1,298/t**
- **Staged development targeting:**
  - **Stage 1 average annual production of approximately 58,000 tonnes of graphite product for 2 years, followed by**
  - **Stage 2 average annual production of approximately 108,000 tonnes of graphite product for 4.3 years**
- **Mine life of 6.3 years based solely on current Ore Reserves ('Ore Reserve Case')**
  - **Increased LOM Case inclusive of Inferred Resources also developed ('Increased LOM Case') (see Table 1)**
- **An in-fill drilling program commenced in July 2018 targeting an upgrade in Mineral Resource classification**

Graphex Mining Limited (ASX: GPX) ('**Graphex**' or the '**Company**') is pleased to announce the results of the updated pre-feasibility study ('**Updated PFS**') for its Chilalo Graphite Project located in south-east Tanzania.

The results of the Updated PFS confirm that Chilalo is a high quality, high margin graphite project and demonstrates significant improvements in Project economics compared to the PFS completed in 2015 ('**2015 PFS**'). With a Mining Licence and key permits in place, Chilalo is strongly positioned for development subject to resolution of outstanding issues with the Tanzanian legislation and completion of funding arrangements.

The Company's Managing Director Mr Phil Hoskins commented, "*Following substantial improvements to Chilalo's product specifications and the continued strength in coarse flake graphite pricing, the economic outcomes of this study are compelling. Completion of the Updated PFS represents an important milestone towards an investment decision by potential financiers, who have identified Chilalo as an outstanding project in the graphite sector.*

"Our efforts remain firmly focused on meeting the due diligence requirements of the financier and continuing to work with the Tanzanian Government to address key legislative and regulatory issues."

The Updated PFS assesses a two-stage production scenario, under which stage 1 would produce approximately 58,000 tonnes of graphite product per year for the first two years of operation ('**Stage 1**') and a stage 2 expansion to commence operation in Year 3 that would produce approximately 104,000 tonnes of graphite product per year ('**Stage 2**'). Whilst the Company is confident in its ability to sell 104,000 tonnes per annum of Chilalo graphite from the beginning of the Project, it has chosen a staged approach to minimise upfront capital. This approach is expected to maximise value for existing shareholders.

The Updated PFS proposes a high-grade open-pit operation and a plant that applies simple comminution and flotation processing. Graphite product will be transported to and shipped from the deep water commercial port of Mtwara, which is located approximately 220 km by road from Chilalo, the majority of which is a sealed main road.

The positive results of both the Ore Reserve Case and Increased LOM Case are summarised in Table 1 below.

Table 1. Operating and financial metrics

Item	Measure	Ore Reserve Case (Approx.)	Increased LOM Case (Approx.)
Life of mine	years	6.3	8.5
Average annual production	tpa	91,000	93,000
Plant feed rate	tpa	831,000	883,000
Average head grade	% TGC	11.0%	10.6%
Average annual EBITDA	US$m	112	112
Basket sales price FOB Mtwara	US$/t	1,777	1,777
Operating cost per tonne of product	US$/t	479	500
Operating margin	US$/t	1,298	1,277
Stage 1 capital cost	US$m	43.6	43.6
Stage 2 capital cost	US$m	32.5	32.5
Post-tax NPV (10% discount rate)	US$m	273	349
Post-tax internal rate of return (IRR)	%	130	131
Post-tax payback period	Yrs	0.84	0.84

Whilst a substantial amount of work has been completed since the 2015 PFS, additional work is expected to be completed to further increase the Ore Reserve (currently underway), pilot plant metallurgical testwork, detailed engineering and mining optimisation, to enable completion of a bankable feasibility study ('**BFS**'). It is anticipated that the Company will be working with a financier on the finalisation of these work streams.

Feed to the mill for the 8.5 year mine life proposed in the Increased LOM Case is comprised of:

- Ore Reserves: 5.3 Mt; and
- Inferred Mineral Resources: 2.2 Mt.

A further 9.5 Mt of Inferred Resources have not been included in the 8.5 year mine life that underpins the Increased LOM Case. There is potential for 9.5 Mt of existing Inferred Mineral Resources currently not included in the mine schedule, to be upgraded in confidence and added to the 7.5 Mt mill feed in the mine schedule. With further drilling and metallurgical testwork, this has the potential to extend the current mine life of 8.5 years. The Company notes that disclosure of financial information underpinned entirely or substantially by Inferred Resources is not permitted by current regulatory policy. A mine life of 8.5 years has been selected as the Increased LOM Case, as the proportion of plant feed comprised of Inferred Resources is sufficiently low to provide the Company with a reasonable basis for reporting financial information associated with the Increased LOM Case.

A diamond drilling program of up to 3,000m is currently under way, one of the purposes of which is to upgrade the Inferred Resources to a higher confidence classification. It is anticipated that the current 3,000m diamond drilling program will enable this upgrade to progress; and given the historically very favourable conversion rate of Inferred Mineral Resources to Indicated Mineral Resources, the Company has confidence that this is likely. The results of that drilling program are expected to underpin the BFS.

Cautionary Statement

As the Increased LOM Case referred to in this announcement uses a portion of Inferred Resources, the ASX Listing Rules require a cautionary statement is included in this announcement.

The Updated PFS referred to in this announcement is a study of the potential of the Chilalo Graphite Project. Additional detail on the Updated PFS is shown in Appendix A.

The results of a Pre-Feasibility Study released on 23 November 2015 and a maiden Ore Reserve was announced on 10 May 2016[1], demonstrated the economic viability of the Chilalo Project. The Updated PFS incorporates a number of material changes since November 2015, including:

- *Additional testwork on Chilalo graphite that materially improved the flake size distribution[2];*
- *Increases in the price of graphite, in particular coarse flake graphite, over the past 18 months[3];*
- *A significant increase in the Ore Reserve and the Mineral Resource[4]; and*
- *Finalisation of initial project scale and subsequent expansion.*

The Increased LOM Case includes a proportion (30%) of JORC classified inferred material representing the last 2.5 years of the 8.5 year mine life. There is a lower level of geological confidence associated with these additional Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target will be realised. The Company has concluded however, that it has reasonable grounds for disclosing a production target which includes 30% of Inferred Mineral Resources on the following basis:

1. *Based on feed to the mill being comprised almost entirely of Ore Reserves (95% of mill feed), the Ore Reserve Case has a six year mine life and is economically viable:*
    a. *Net Present Value: US$273 million;*
    b. *Internal Rate of Return: 130%;*
    c. *Payback Period: 0.84 years;*
2. *The historical conversion rate of Inferred Mineral Resources to Indicated Mineral Resources has been very favourable, and the Company expects to be able to continue to increase the Chilalo Ore Reserves at a similar rate and upgrade these Mineral Resources; and*
3. *The additional Inferred material forming the final 2.5 years of the 8.5 year mine life is not critical to the economic viability of the Chilalo Graphite Project.*

The above financial outcomes differ from the financial outcomes of the Increased LOM Case as they are based on a six year mine life which is underpinned almost entirely by Ore Reserves. The Increased LOM Case is based on an 8.5 year mine life and includes a higher proportion of Inferred Resources, which is processed almost entirely in the final 2.5 years of the 8.5 year mine life.

On the basis of the above, the Company confirms the use of inferred material is not a determining factor to the Project's viability for the Increased LOM Case. Further evaluation work and appropriate studies are required before the Company will be in a position to estimate additional Ore Reserves to support a longer mine life. Furthermore, the Company is currently conducting a diamond drilling program to upgrade the confidence level of the Inferred Resources. There can be no assurance that this diamond drilling program will result in an increase in the Ore Reserve or in an upgrade in the classification of the Mineral Resource.

This Updated PFS is based on the material assumptions outlined elsewhere in this announcement and summarised in Appendix B. These include assumptions about the availability of funding. While the Company considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Updated PFS will be achieved. To achieve the range of outcomes indicated, funding in the order of US$50 million will likely be required.

In July 2017, the Parliament of the United Republic of Tanzania enacted legislation which amended the legal and regulatory framework governing the minerals industry (Amending Legislation). In January 2018 and July 2018, pursuant to the enactment of the Amending Legislation, the Government of Tanzania published the Mining Regulations of 2018 which sought to provide further information and clarification of certain aspects of the Amending Legislation and Regulations. The Amending Legislation and Regulations have created issues for resources companies seeking to secure project finance and the Company is working with the Tanzanian Government to address such issues, the resolution of which is expected to enable the Company to obtain the finance necessary for development of the Project. Investors should note that there is no certainty that the Company will be able to raise the required finance when needed.

In May 2017, the Company entered into a non-binding term sheet with CN Docking Joint Investment & Development Co. Ltd, a subsidiary of China National Building Materials Inc. for the joint development of the Project. Owing to the Amending Legislation and the Regulations, a joint venture arrangement with CN Docking has not been concluded. CN Docking retains its interest in financing and offtake for Chilalo, however negotiations cannot progress further until there is a satisfactory resolution to issues associated with the Amending Legislation and the Regulations. In recent months, the Company has been in ongoing discussions with a financier that has emerged as a potential financier for funding the development of Chilalo.[5] In May 2018, this potential financier visited Tanzania and China (with the Company) as part of their ongoing due diligence.

The Updated PFS is expected to provide the basis for an investment decision by this potential financier. The Company further expects that the provision of funding pursuant to a positive investment decision will be conditional on delivery of a bankable feasibility study. The Company has identified the technical work required to complete a bankable feasibility study and anticipates that a positive investment decision from the potential financier will include funding to carry out that technical work. The diamond drilling program will enable the BFS to be completed in a shorter time frame than otherwise.

The Company expects that any funding agreement will be conditional on the Company reaching a satisfactory outcome with the Tanzanian Government on specific issues associated with the Amending Legislation and the Regulations.

It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of the Company's existing shares.

It is also possible that the Company could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of Chilalo. If it does, this could materially reduce the Company's proportionate ownership of Chilalo.

The Company has concluded it has a reasonable basis for providing the forward-looking statements in this announcement and to expect that it will be able to fund the Project's development. The Company recognises that the exclusion of some of the Inferred Resources from the mine plan reduces the potential mine life and returns for the Project, but is working to address this with the diamond drilling program.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Updated PFS.

Further details on the Updated PFS are included in the following pages.

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1. See ASX announcement 10 May 2016 by IMX Resources Limited, which at that time, owned the Chilalo Project. Please refer to Appendix B for JORC 2012 information relating to the updated Ore Reserve.
2. See ASX announcement 18 September 2017. Graphex confirms that it is not aware of any new information or data that materially affects the information included in that announcement.
3. See ASX announcements 18 September 2017 and 5 February 2018. Graphex confirms that it is not aware of any new information or data that materially affects the information included in those announcements.
4. See ASX announcement 2 February 2017. Graphex confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates in that announcement continue to apply and have not materially changed.
5. See ASX announcement 20 June 2018.

APPENDIX A. SUMMARY OF UPDATED PFS

The Updated PFS proposes a high-grade open-pit operation utilising conventional mining methods and a plant that applies simple flotation processing. Graphite product will be transported to and shipped from the deep water commercial port of Mtwara, which is located approximately 220 km by road from the Project, the majority of which is a sealed main road.

ORE RESERVE AND MINERAL RESOURCE ESTIMATE

The 2015 PFS was based on the Chilalo Ore Reserve and Mineral Resource that was estimated by CSA in May 2016[1]. Since then, the completion of additional metallurgical testwork has enabled an updated Ore Reserve estimate that has delivered an 11% increase in contained graphite (from 517 kt to 576 kt). Table 1 reporting for the updated Ore Reserve is included as Appendix C.

The Mineral Resource Estimate (see Table 2), is a high-grade Indicated and Inferred Mineral Resource of 16.9 Mt grading 10.2% Total Graphitic Carbon ('**TGC**') for 1,722,000 tonnes of contained graphite within the >5% high-grade TGC zone. The Mineral Resource Estimate is comprised of:

Indicated Resource of 5.2 Mt grading 11.9% TGC for 622,000 tonnes of contained graphite; and

Inferred Resource of 11.7 Mt grading 9.4% TGC for 1,100,000 tonnes of contained graphite.

The high-grade resource is part of the total Indicated and Inferred Mineral Resource of 53.5 Mt grading 5.6% TGC for 2,987,000 tonnes of contained graphite. The total Indicated and Inferred Mineral Resource includes the above high-grade resource and a low-grade Inferred Resource of 36.6 Mt grading 3.5% TGC for 1,265,000 tonnes of contained graphite. [4]

Table 2. Chilalo Mineral Resource and Ore Reserve

Domain	Classification	Tonnes (Mt)	TGC (%)	Contained Graphite (kt)
High-grade zone	Probable Reserve	5.3	10.9	576
Total ore reserves	**Probable Reserve**	**5.3**	**10.9**	**576**
High-grade zone	Indicated	5.2	11.9	622
High-grade zone	Inferred	11.7	9.4	1,100
Total high-grade resource	**Indicated and Inferred**	**16.9**	**10.2**	**1,722**
Low-grade zone	Inferred	36.6	3.5	1,265
Total resource	**Indicated and Inferred**	**53.5**	**5.6**	**2,987**

Mineral Resources are inclusive of Ore Reserves. The Ore Reserve was estimated applying an 8% TGC cut-off and allows for mining ore loss of 5% and dilution of 10%. The Mineral Resource was estimated within constraining wireframe solids using a core high grade domain defined above a nominal 5% TGC cut-off within a surrounding low-grade zone defined above a nominal 2% TGC cut-off. The resource is quoted from all classified blocks within these wireframe solids. Differences may occur due to rounding.

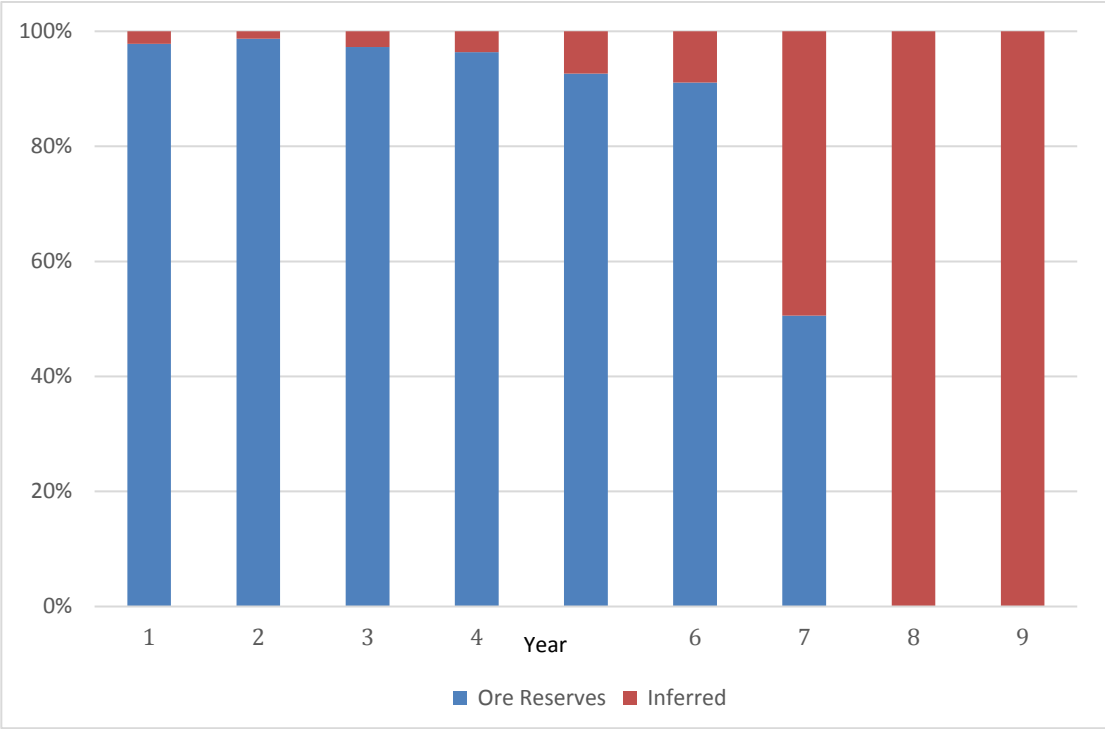
The Mineral Resources underpinning the production target have been prepared by Competent Persons in accordance with the requirements in Appendix 5A (JORC Code).

MINING

The scope of work for the Updated PFS includes an optimisation using the most recent Ore Reserve and Mineral Resource estimate (see Table 2 above) to assess the scheduling impacts of a mill production rate of 500 kt/year for the first two years followed by mill production rate of 1 Mt/year.

Relevant proportions of Indicated and Inferred material utilised in the Increased LOM Case mine plan are presented in Figure 1 below. In summary, the 7.51 Mt mining schedule is based on 5.27 Mt of Ore Reserves (70% of total mill feed) and 2.24 Mt of Inferred Resources (30% of total mill feed). The inclusion of the Inferred Resources is not a determining factor for the Project's viability. As shown in Figure 1 below, the Inferred material does not feature materially in the proposed mining schedule.

Figure 1. Increased LOM Case: Annual processing plant feed by resource category



The Chilalo open pit mine is planned as a conventional truck and shovel operation, using 40-tonne articulated trucks and matching excavators. Early stages of the open pit are expected to be free-dig, with the remainder to be mined using standard drill and blast techniques. Contractor mining has been assumed for the life of mine. Investigation of owner operator mining, supported by a fleet of ancillary equipment, will be undertaken as part of the BFS.

The open pit has been designed on geotechnical parameters determined by specialist logging and testing of drill core and on dimensions that match the planned equipment capability. The open pit mining activities have been sequenced and scheduled in stages to manage cashflow and to provide a continuous feed of ore to the processing plant.

Initial waste generated from mining is to be used for construction of the Tailings Storage Facility ('**TSF**') and thereafter to be dumped in a designed location outside of the pit.

Mining operating costs have been developed by CSA Global based on a detailed mining model and by using budget estimates from equipment suppliers and reliable operating cost estimates. Mining capital costs have been estimated for mobilisation, clearing and topsoil stockpiling, waste for construction purposes, waste pre-strip, and haul road construction.

METALLURGY AND PROCESSING

Extensive testwork has been carried out on Chilalo material, the focus of which has been to preserve flake size while maintaining a saleable grade of product.

Metallurgy

Drill programs were carried out in the last quarter of 2014 to generate samples for metallurgical testwork. From these drill programs, sampling and compositing was undertaken to generate representative samples to assess the ore's amenability to beneficiation by froth flotation and to identify the nature, flake size and occurrence of the graphite in a selection of drill core samples and flotation products. This testwork program was completed by SGS and managed by BatteryLimits, with the results supporting the process design and engineering for the 2015 PFS.

Further programs of metallurgical testwork were initiated in 2016 and 2017 on samples generated since the 2015 PFS was completed, aimed at producing bulk product samples for marketing and additional preliminary testing of oxide ore. This work included programs completed at SGS Lakefield, SGS Perth and Suzhou Sinoma Research Institute for Non-Metallic Minerals in Suzhou China (Suzhou).

In addition, during 2018 a further series of tests were undertaken by BatteryLimits to further optimise coarse flake size recovery and verify previous results achieved by Suzhou and it is these results which are included in the Updated PFS. Trench samples were taken from previously opened trench locations for the 2017 bulk pilot plant run and delivered to ALS Metallurgy Perth, to continue with the coarse flake investigation. Using the results from the preliminary work, further tests were run incorporating flash flotation of coarse material to remove the large flakes before continuing with further polishing and regrind stages to achieve the target grades.

It is anticipated that further testwork to optimise the process flow sheet will result in improved flake size and a higher value product. The Company has engaged SGS Lakefield in Canada for this purpose, with a 5 tonne sample in transit to Canada. The Company is also in discussion with Chinese graphite processing specialists regarding further testwork to enhance the value of Chilalo's product.

Flake size and grade distributions for the products for the optimal tests to date are shown in Table 3.

Table 3. Typical final product size distribution and grade

Flake Size	Sieve Size		Mass (%)	TGC (%)
	Microns (µm)	Mesh		
Above Super Jumbo	>850	+20	8.5	93.4
Super Jumbo	-850 + 500	-20 +32	24.4	90.3
Jumbo	-500 +300	-32 + 50	24.3	88.6
Large	-300 + 180	-50 + 80	8.5	98.7
Medium	-180 + 150	-80 + 100	5.0	98.8
Small	- 150	-100	29.3	97.4

Note: ALS used an 850 µm sieve for sizing

The overall graphite recovery for this series of tests was maintained in the range of 90-95%. Further optimisation of the test conditions would likely see an improvement in coarse flake distribution. Key outcomes of the 2018 testwork were:

- Flotation testwork has demonstrated that high-grade graphite product at coarse flake sizes can be produced using a relatively simple flotation process;
- Rougher flotation test results were particularly robust with high recovery of graphite to relatively low mass concentrates with good kinetics over a range of coarse primary grind sizes with the ability to maintain a coarse PSD in the rougher concentrates;
- Cleaner flotation testwork used five stages of cleaning and produced final graphite product at target grade TGC>95% at up to 95% graphite recovery and maintained a favourable coarse flake size distribution;
- Initial optimisation testwork has demonstrated high graphite recovery to high-grade coarse product can be achieved using separate coarse and fine flotation streams;
- Additional variability testwork on several oxide sample composites using a standard flotation procedure has demonstrated high graphite recovery with similar size distribution to previous testwork and has confirmed that the ore is quite consistent in metallurgical performance to the fresh and transition samples; and
- A bulk pilot testwork program to generate product for market samples has further demonstrated that the production of coarse flake, high grade saleable product is achievable.

Flowsheet and processing

The processing plant is designed to recover graphite by froth flotation. Ore from the mine will be primary and secondary stage crushed, followed by grinding and graphite flotation. The final graphite concentrate will be filtered, dried, sized and bagged for transport. A key objective of the plant design is to produce a high-grade graphite product at the coarsest possible graphite flake size to maximise value of the products.

The proposed flow sheet has been developed based on the metallurgical testwork undertaken to date. The design for the processing plant is based on a metallurgical flowsheet with unit operations that are conventional and well proven in the industry and aligned with current graphite industry practice.

The Project processing plant is designed to treat 0.5 Mt per year of ore in Stage 1. The ore will be two-stage crushed, followed by grinding in a rod mill, with graphite recovered by flotation. The process includes screening off a coarse fraction at two stages in cleaning followed by inter-stage re-grind milling of the undersize streams to improve liberation and product purity. The flotation concentrate is then dewatered by thickening, filtration and drying. The product is screened and bagged as final product in six different size fractions.

INFRASTRUCTURE AND LOGISTICS

Location and access

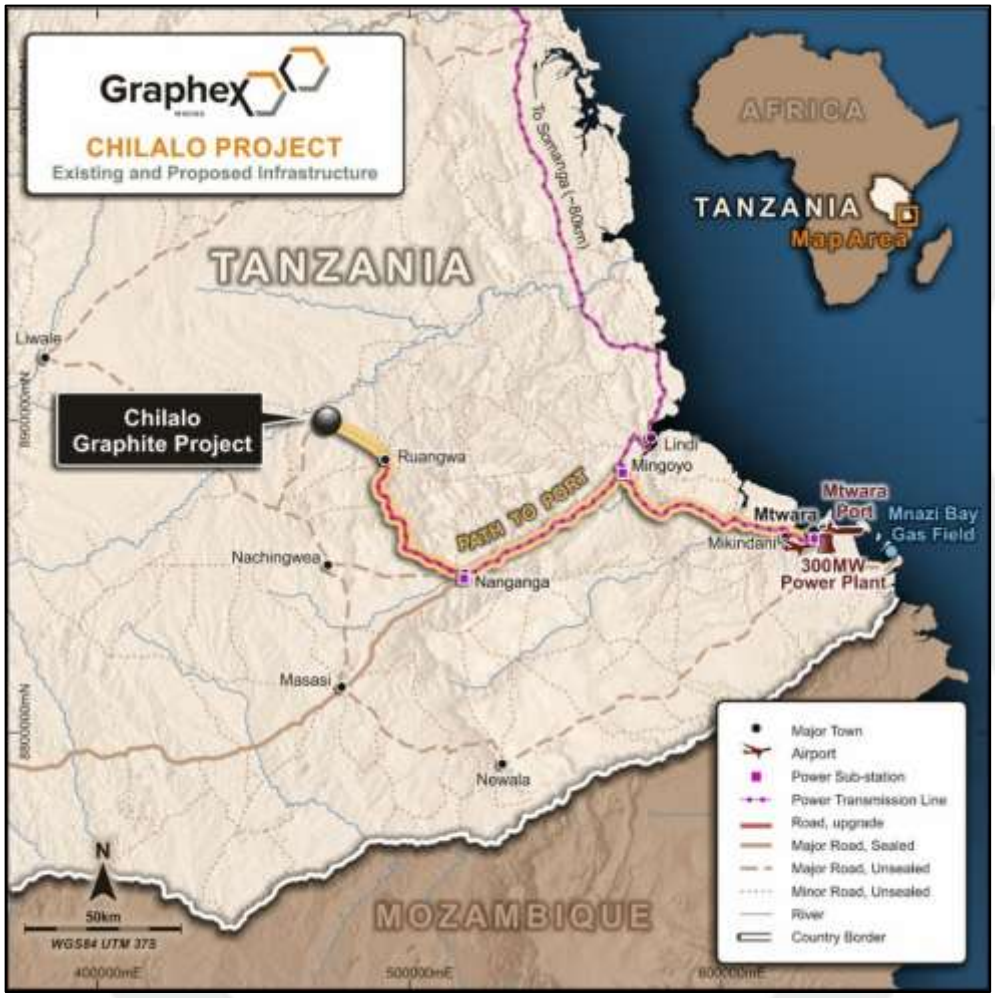
The Project is located in south-eastern Tanzania, 100 km north of the border with Mozambique, approximately 180 km west of the coastal port city of Mtwara on the Indian Ocean and 400 km south of Tanzania's largest city, Dar es Salaam. Chilalo is situated in the Ruangwa District of the Lindi Region, approximately 30km from the township of Ruangwa.

Access to the Project from the Mtwara Port can be divided into three sections according to agency and type of road:

- Sealed main road of approximately 148 km from Mtwara to the town of Nanganga;
- Unsealed road of approximately 60 km from Nanganga to the village of Ruangwa. A Government approved project to upgrade the road from Nanganga to Ruangwa is continuing, with the road initially being upgraded to a high-quality gravel road and progressively sealed with bitumen from Ruangwa; and
- Unsealed road of 32 km from Ruangwa to Chilalo.

Figure 3 shows the location of the Project and existing and proposed infrastructure.

Figure 3. Location of Chilalo Project and existing and proposed infrastructure



Power

The power requirements for the main process plant have been calculated at a total connected load of 3.2 MW including all duty and standby equipment with an estimated average running load of 1.8 MW. This running load was determined from the estimated plant load plus allowances for losses and consumers which are not included in the equipment list.

A 4 MW power station comprising 4 x 1 MW diesel generator sets (gensets) rating with an N+1 strategy (number of sets required plus one for maintenance/standby) will supply power to the plant at 400V.

For Stage 2 operations commencing in Year 3, the estimated running load will increase to 3.5 MW. The total power requirement is expected to be supplied from connection to an extended TANESCO local power network. The existing diesel power station will be retained on site and will provide backup power in the event of a network outage and allow 50% production to be maintained. Costs for the infrastructure to provide for access to grid connected power are included as part of Stage 2 capital cost.

The Government of Japan, through the Japan International Cooperation Agency ('**JICA**'), has completed a study on the construction of a 300 MW electrical power generation facility using natural gas in Mtwara. The proposal involves the supply and installation of a power generation plant and a 253 km, 400 kV transmission line from Mtwara to Somanga Fungu in Lindi (see Figure 3).

The power upgrade project, which is estimated to cost US$ 360 million, will be majority funded by a grant from JICA, with the balance to be met by a contribution from the Government of Tanzania. In the 2018/19 financial year, a total of TZS 4 billion in foreign currency has been set aside by the Government for implementation. Construction is expected to commence in November 2018 and is targeted for completion in June 2021.

The Tanzanian Government, through the Tanzania Electric Supply Company Limited, a government owned public utility under the Ministry of Energy with responsibility for the generation, transmission, distribution and sale of electricity, is also constructing sub-stations throughout the region to provide for the reticulation of grid power throughout the south-east region of Tanzania.

Water supply

A borefield location has been identified with several production bores drilled and pump tested to ensure that the bore field will support the operation. Water from the bores will be pumped to the raw water tank and then utilised around the operations.

The plant will have tailings and concentrate high rate thickeners where overflow from both thickeners will gravitate to the process water pond for re-use within the process plant.

Port

Two options for export of the graphite product have been assessed as part of the Updated PFS – delivery of product to either Dar es Salam Port or Mtwara Port. The Updated PFS has assumed that graphite product will be exported via the Mtwara Port. The Mtwara Port has existing capacity of 400,000 tonnes per year and this will increase to 800,000 tonnes per year on completion of Berth No. 2, which is currently under construction.

Buildings and operations village

All buildings within the plant, administration, accommodation village and infrastructure areas will be of the modular prefabricated type.

Site buildings will include:

- Site administration offices;
- Plant offices;

- Accommodation village;
- Crib and ablution blocks; and
- Sheds for workshops, warehouse, product packaging and storage (site and port).

The accommodation facility has been designed to allow for 100 residents at any given time. During the construction phase, the intention will be to use the camp village for the construction crews working on site (non-local).

FINANCIALS

Capital cost estimate

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. The capital cost is the same for both the Ore Reserve Case and the Increased LOM Case. Table 4 shows a high-level breakdown of the capital cost estimate by area.

Table 4. Capital cost summary by area

Cost Component	Stage 1 Capex (Approx. US$M)	Stage 2 Capex (Approx. US$M)
Process Plant		
Process plant	11.8	11.8
Bulk earthworks, pond, infrastructure, buildings, EPCM	5.2	5.2
Total Process Plant	17.0	17.0
Project Infrastructure		
TSF (2-year starter cell)	2.1	0.9
Raw water supply - borefield	1.0	0.3
Roads	1.6	0.1
Power	1.3	5.3
Camp (100 man)	2.5	0.5
Plant vehicles & mobile equipment	1.3	0.3
Mine site establishment and infrastructure	0.6	-
Total Infrastructure	10.4	7.5
Indirect costs		
Infrastructure EPCM (10%)	1.0	0.7
Owner's costs (mine prestrip)	2.9	1.5
Prestrip	3.3	-
Land access and Resettlement	1.1	-
Spares	0.6	0.2
Project Insurance	1.0	0.2
Contingency (20%)	5.0	4.4
Other indirect costs	1.2	0.2
Total Indirect	16.2	8.1
GRAND TOTAL	**43.6**	**32.5**

Operating cost estimate

The operating cost estimate for the Project includes all costs associated with mining, processing, infrastructure and site-based general and administration costs. A life of mine annualised operating cost summary is shown in Table 5.

Table 5. Ore Reserve Case: Life of mine average annual operating cost (FOB) (approx.)

Area	Average Cost LOM (US$ k/y)	Total Cost (%)	Feed (US$/t)	Product (US$/t)
Mining operations	15,500	35%	19	170
Reagents, Consumables & Water	7,100	16%	9	77
Power	3,800	9%	5	41
Product Logistics	8,800	20%	11	97
Total General & Administration	2,500	6%	3	27
Maintenance	1,200	3%	1	13
Labour (Total GPX)	4,800	11%	6	53
Total	**43,700**	**100%**	**53**	**479**
Mining operations & Technical Services	16,100	37%	19	177
Processing	14,500	33%	17	158
General & Administration	4,200	10%	5	46
Product logistics	8,900	20%	11	97
Total	**43,700**	**100%**	**53**	**479**

Table 5. Increased LOM Case: Life of mine average annual operating cost (FOB) (approx.)

Area	Average Cost LOM (US$ k/y)	Total Cost (%)	Feed (US$/t)	Product (US$/t)
Mining operations	18,000	38%	20	192
Reagents, Consumables & Water	7,300	16%	8	79
Power	3,700	8%	4	40
Product Logistics	9,000	19%	10	97
Total General & Administration	2,500	5%	3	26
Maintenance	1,200	3%	1	13
Labour (Total GPX)	4,900	10%	6	52
Total	**46,600**	**100%**	**53**	**500**
Mining operations & Technical Services	18,600	40%	21	199
Processing	14,800	32%	17	159
General & Administration	4,200	9%	5	45
Product logistics	9,000	19%	10	97
Total	**46,600**	**100%**	**53**	**500**

Financial outcomes

The Ore Reserve Case is expected to generate a post-tax NPV of US$273 million, with a post-tax IRR of 130% and a post-tax payback period of 0.84 years. Further detail on financial outcomes is shown in Table 6.

Table 6. Financial outcomes (approx.)

Item		Ore Reserve Case	Increased LOM Case
Revenue	US$M	1,070	1,407
Post-tax net cashflow	US$M	521	691
EBITDA	US$M	710	953
Average annual EBITDA	US$M	112	112
Operating cost per tonne of product (FOB)	US$/t	479	500
Weighted average basket price (FOB Mtwara)	US$/t	1,777	1,777
Capital cost – Stage 1	US$M	43.6	43.6
Post-tax payback period	years	0.84	0.84
Post-tax NPV (10% discount rate)	US$M	273	349
Post-tax IRR	%	130	131
Life of mine	Years	6.3	8.5

Prices

The weighted average basket price is based on information obtained from CN Docking and a reputable Chinese trading house. Of these sources, the most conservative estimates were used in the Updated PFS. Table 7 shows the Chilalo basket price.

Table 7. Chilalo basket price (FOB Mtwara)

Flake Size	Microns	Mesh	Mass Dist. %	Grade TGC %	Price (US$/t)	Basket Sales Price (US$/t)
Above Super Jumbo	> 850	20	9	93.4	5,150	437
Super Jumbo	500 – 850	32	24	90.3	2,540	620
Jumbo	300 – 500	50	24	88.6	1,757	427
Large	180 – 300	80	9	98.7	974	83
Medium	150 – 180	100	5	98.8	779	39
Small	< 150	-100	29	97.4	583	171
Weighted Basket Sales Price (Mass Dist. % x Price) (FOB Mtwara)						**$1,777**

Sensitivity analysis

In addition to determining the expected financial outcomes, a series of sensitivities were performed for changes in the basket prices, feed grade of processed ore, operating costs and development and sustaining

capital costs. The results of the sensitivity analysis for both the Ore Reserve Case and the Increased LOM Case are displayed as a spider chart in Figures 4 and 5.

Figure 4. Ore Reserve Case: Sensitivity Analysis

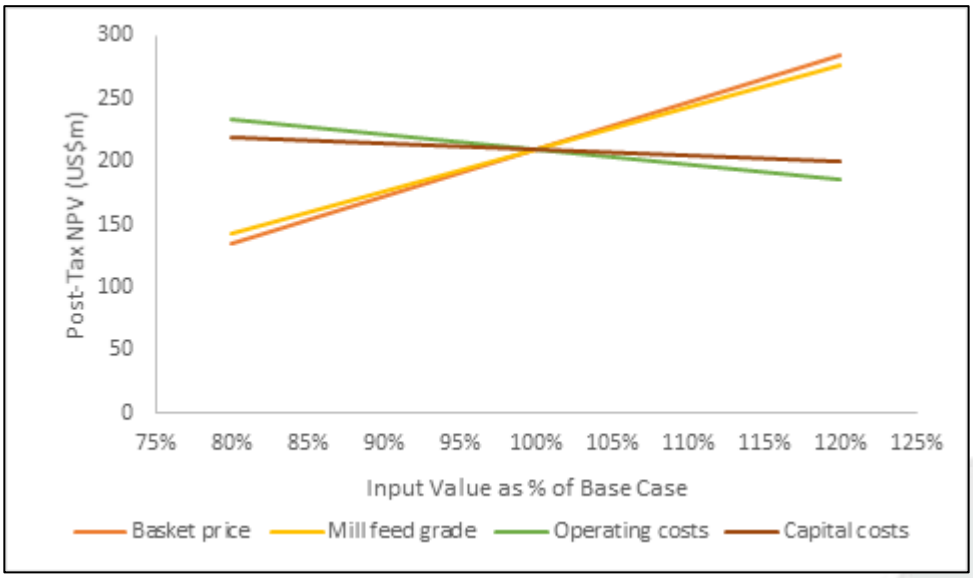
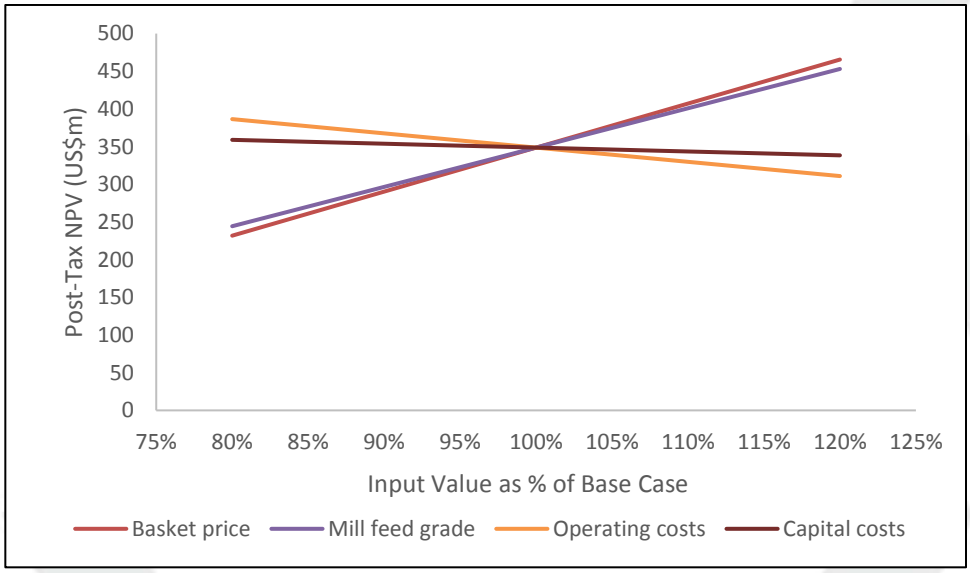


Figure 5. Increased LOM Case: Sensitivity analysis



Sensitivity analysis was also conducted on the post-tax NPV for a range of discount rates as shown below.

Table 8. Discount rate sensitivity analysis (approx.)

Discount rate (%)	Ore Reserve Case Post-tax NPV (US$M)	Increased LOM Case Post-tax NPV (US$M)
6	328	431
8	299	387
10	**273**	**349**
12	249	315
14	229	285

The discount rate of 10% that was applied in the Updated PFS takes account of the location of the Project and the discount rates used by peer companies to assess graphite projects in East Africa.

MARKETING

Since mid-2014 when the Chilalo Project was identified, Graphex has spent a considerable amount of time focussing on the graphite market and the marketability of Chilalo product.

Since early 2015, Graphex management has spent approximately 180 days in China across 26 separate trips. Graphex has focussed on the Chinese market due to its dominant position over most aspects of the graphite market, including graphite supply and processing expertise (historically), graphite demand, expandable graphite production and demand, and spherical graphite production and demand. These trips have helped shape the Company's understanding of the true graphite market opportunity for Chilalo.

Product specifications and general product marketability were considered to support the Mineral Resource Estimate for Industrial Minerals, in accordance with Clause 49 of the JORC Code 2012. Independent testwork programs have demonstrated that Chilalo high-grade mineralisation can produce a graphite concentrate containing a significant proportion of large and jumbo flake graphite.

Testwork has demonstrated that in addition to its coarse flake, Chilalo product exhibits exceptional expansion characteristics, with an expansion rate of 1,500mL/g. The combination of coarse flake and expandability makes Chilalo product ideally suited to the expandable graphite market.

China National Building Materials ('**CNBM**') has concluded a research program into flame retardant building materials and their Group Vice President and President of their Research Institute has stated that China needs 2 million tonnes per annum of expandable graphite.

Since 2016, there have been substantial restrictions to supply in China as a result of environmental inspections resulting in widespread graphite mine closures. Prior to the environmental crackdown (which is expected to permanently reduce supply), after 140 years of dominating global supply, China's graphite supply was under pressure as a result of:

- Declining grades;
- Increasing costs (lower grades, mines getting deeper, environmental tax introduced in January 2017, increasing staff costs); and
- Diminished product quality (flake size).

With a shortage of supply and increasing demand, there has been upward pressure on graphite prices. Based on available information, including that provided by independent consultancy Benchmark Minerals Intelligence, graphite prices have increased by more than 50% over the past 18 months.

Graphex has had dialogue with end users, traders and intermediaries across China, Japan, Korea, Europe and North America. Graphex has also provided product samples to numerous potential offtakers. China has been identified as the target market for Graphex's product for the following reasons:

- China accounts for over 95% of the world's expandable graphite capacity which is the primary market for high value coarse flake graphite;
- China's coarse flake graphite reserves have diminished to the point where they are reliant on imports to meet demand; and

- Graphex has developed considerable experience and contacts in China.

Reflective of the expected demand for Chilalo product, the Company has signed five Statements of Sales Intent ('**SSIs**') for the supply of flake graphite to expandable graphite producers and traders in China. The SSIs cover 80,000 tonnes per year of Chilalo graphite and based on discussions to date, the Company is confident that the SSIs will be converted into binding offtake agreements scaled to suit Stage 1 production.

FUNDING

In May 2017, the Company entered into a non-binding term sheet with CN Docking Joint Investment & Development Co. Ltd ('**CN Docking**'), a subsidiary of CNBM, for the joint development of the Project. Signing of the non-binding term sheet followed a memorandum of understanding that was entered into in February 2016 and completion of detailed due diligence by CN Docking, including a feasibility study.

Owing to the Amending Legislation and the Regulations, a joint venture arrangement with CN Docking has not been concluded. CN Docking retains its interest in financing and offtake for Chilalo, however, until there is a satisfactory resolution to issues associated with the Amending Legislation and the Regulations, negotiations with CN Docking are not expected to advance. Notwithstanding the Amending Legislation and Regulations, representatives of CN Docking visited Tanzania in February this year to meet members of the Ministry of Minerals, tour the proposed mine site, view supporting infrastructure and meet with local contractors, local government and village leaders.

Earlier this year, the Company commenced discussions with a party that had expressed an interest in financing the development of Chilalo. In May 2018, as part of their ongoing due diligence, a potential financier visited Tanzania to inspect the proposed mine site, trenches and outcrop, tour the Mtwara Port and drive the proposed transportation route for Chilalo product. The Updated PFS has been completed to support continued engagement with the potential financier and to help inform their investment decision.

The financial, economic and marketing metrics generated under the Updated PFS and the resource base at Chilalo demonstrate that Chilalo has the capacity to deliver a high-value project. While the Project is economically viable with robust financial metrics under a scenario in which only the Ore Reserve is mined, given the significant quantity of inferred resources and the confidence that the majority of this material can be converted to a higher confidence resource classification, there is potential for significantly improved outcomes resulting from extensions to mine life.

The Company recognizes that completion of any financing arrangement is expected to be subject to reaching a satisfactory resolution with the Tanzanian Government regarding the Amending Legislation and the Regulations. The Company continues to engage constructively with the Tanzanian Government and in August 2018, lodged a comprehensive submission with the Minister of Minerals. The submission, which was requested by the Minister of Minerals at a meeting with the Company in June 2018, is a substantial document that identifies 10 key issues associated with the Amending Legislation and the Regulations that are central to the ability of resources companies operating in Tanzania (such as Graphex) to obtain the finance required for project development. The Company expects to shortly meet with the Minister of Minerals, and senior officials from other Government departments, to present the submission to identify a way forward for the development of Chilalo.

The Company has formed the view that there are reasonable grounds to assume that should a satisfactory resolution be reached with the Tanzanian Government regarding the Amending Legislation and the Regulations, it will be able to secure debt and equity finance sufficient to cover the estimated capital and working capital costs as and when required.

INDICATIVE DEVELOPMENT TIMETABLE

The key drivers of the project development timetable are completion of a BFS and reaching a satisfactory resolution with the Tanzanian Government on certain issues associated with the Amending Legislation and Regulations. It is the successful completion of these two work streams that will allow for a decision to mine.

Figure 6 shows the indicative development timetable, based on a decision to mine being taken in the second quarter of 2019.

Figure 6. Indicative development timetable

Task		2018	2019				2020			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Bankable feasibility study									
2	Resolution of issues with Tanzanian Government									
3	Decision to mine									
4	Roads, water supply, camp									
5	Mine establishment and pre-strip									
6	Tailings storage facility construction (Starter)									
7	Long lead orders									
8	Process plant fabrication and delivery									
9	Plant construction incl. mobilisation and earthworks									
10	Commissioning									
11	Production									

APPENDIX B. MATERIAL ASSUMPTIONS

<table>
<tr><td>Study status</td><td>
During 2015, a Pre-Feasibility Study was undertaken on the Project. This PFS was predicated on a Project to mine and process 630,000 t/y of graphite ore grading 10.85% TGC, producing a nominal 51,000 t/y of coarse flake graphite and a further 18,000 t/y of fines, for bagging and transportation to the Mtwara Port in Tanzania and on-shipping to international buyers.

In February 2017, following additional drilling, the high-grade Chilalo Mineral Resource was increased to 16.9 Mt grading 10.2% TGC comprised of:

• Indicated Resource of 5.2 Mt grading 11.9% TGC for 0.6 Mt of contained graphite; and

• Inferred Resource of 11.7 Mt grading 9.4% TGC for 1.1 Mt of contained graphite.

The total Mineral Resource at Chilalo is 53.5 Mt grading 5.6% TGC which includes a low-grade resource of 36.6 Mt grading 3.5% TGC.

In addition, as a strategy for de-risking the Project, Graphex completed a scoping study to investigate a low capital option to facilitate a potential staged development approach based on a 0.33 Mt/year start up option.

Following further project development, product market reviews and modelling of the impacts of prospective financing on shareholder returns, Graphex completed the Updated PFS based on a two-stage expansion:

• Stage One – processing plant and infrastructure at a nominal design basis rate of 0.5 Mt/y to produce a nominal 50 kt/y graphite in the first two years of production; and

• Stage Two – a second 0.5 Mt/y plant and associated additional infrastructure doubling throughput to 1 Mt/y and graphite production to a nominal 100 kt/y from Year 3 of operation.

The Company is confident it could sell 100 kt/y immediately, however, the staged expansion is proposed in order to ensure the highest net asset value per share.

Further studies are required in Mining and Metallurgy to define the parameters of design.
</td></tr>
<tr><td>Mining factors or assumptions</td><td>
Technical work and data consolidation were performed by CSA Global. The material in the mining schedule for the Ore Reserve Case and the Increased LOM Case was sourced from the pit optimisation shells and has been conducted using the Mineral Resource model “ch0117md.dm”, as prepared by Grant Louw of CSA Global. Both Indicated and Inferred mineral resources were used for the optimisation.

Mining dilution of 10% and mining recovery of 95% has been maintained from the previous mining study based on a review of the mineralisation width and dimensions versus the bench height and bucket size. Mine dilution has been assumed to have a grade of 0% TGC.
<table>
<tr><th>Input</th><th>Unit</th><th>Value</th></tr>
<tr><td>Financial</td><td></td><td></td></tr>
<tr><td>Currency</td><td>$</td><td>US$</td></tr>
<tr><td>Discount rate</td><td>%</td><td>10%</td></tr>
<tr><td>Graphite</td><td>basket price/t concentrate (FOB)</td><td>$1700</td></tr>
<tr><td>Total royalties</td><td>%</td><td>4%</td></tr>
<tr><td>Concentrate grade</td><td>%</td><td>90%</td></tr>
<tr><td>Mining</td><td></td><td></td></tr>
<tr><td>Dilution</td><td>%</td><td>10%</td></tr>
<tr><td>Recovery</td><td>%</td><td>90%</td></tr>
<tr><td>Fixed mining costs</td><td>US$/t</td><td>Included in mining costs</td></tr>
</table>
</td></tr>
</table>

	Mining cost base	US$/t	3.37
	Mining cost adjustment factor	US$/t/5m depth	0.01
	Reference elevation	mRL	195rl
	Fuel cost	US$/l	Included in mining rates
	Rehabilitation of waste dump	US$/t of waste	$0.10
	Overall slope angles		
	Transported	°	35.0
	Oxide	SE °, NW °	40, 49.5
	Transitional	SE °, NW °	40, 49.5
	Fresh	SE °, NW °	40, 57
	Minimum mining width	m	20.0
	Minimum cutback width	m	20.0
	Processing		
	Rom Feed rate	Y1-2 Mt/y, Y3 Mt/y	0.5,1.0
	Oxide and transitional recovery	%	94
	Fresh recovery	%	94
	Processing cost	US$/t ore	17.0
	Crusher feed	US$/t ore	0.70
	Ore differential (mining)	US$/t ore	0.40
	General and administration	US$/t ore	4.70
	Sustaining capital	US$/t ore	6.0
	Transport	US$/t ore	9.0
	Grade control	US$/t ore	0.50
	Total Processing		
	Oxide and Transitional	US$/t ore	38.30

The cut-off grade determined by the Whittle TM software is approximately 3% TGC. This study has been based on a cut-off of 8% TGC.

The geotechnical parameters for the Project have been based on the Chilalo Geotechnical Report supplied by Open House Management Solutions geotechnical consultants. The report represents the geotechnical and stability assessment of pit slopes for the Project. The specified parameters have been used in both the optimisation and design of the Chilalo open pit.

The mining costs were estimated for a mining contractor undertaking clear and grub; drill and blast; excavate, load and haul activities. Rates used for the mining contractor were compiled from CSA Global's database, using recent and comparable projects in the region.

Metallurgical factors or assumptions	Graphex has previously reported on extensive testwork undertaken during a PFS testwork program completed on drill core, testing oxide, transitional and fresh ore types. Additional testwork was undertaken for this study based on further trench and pit samples. Graphite flotation recovery ranged from 90-96% with graphite grades ranging from 90-98% TGC were achieved. A graphite flowsheet has been adopted with an emphasis on preservation of coarse flake graphite, through a combination of conventional flowsheet and graphite attritioning optimisation.
Environmental	An environmental and social impact assessment ('**ESIA**') was approved by the National Environment Management Council of Tanzania in March 2016. The approved ESIA is a key permit for project development. Tailings are pumped to a TSF with an assumed average of 20% of water returned to the process water pond via a decant water system.

Infrastructure	Chilalo is located in south-eastern Tanzania, East Africa, 100 km north of the border with Mozambique, approximately 180 km west of the coastal port city of Mtwara on the Indian Ocean and 400 km south of Dar es Salaam. Chilalo consists of six tenements, being one Mining Licence and five Prospecting Licences that cover an area of 219.88 square kilometres. The Chilalo Tenements are held by Graphex through its Tanzanian subsidiary Ngwena Tanzania Limited. Raw water will be supplied from a local bore field adjacent to the plant site. Water from the bores will be pumped to the raw water tank and then utilised around the operations. Plant waste water is reused in the plant. Graphite product will be exported via the Port of Mtwara or Dar es Salam. Graphite product will be placed into bulka bags and transported to the Mtwara Port via semi-trailers where it will be placed into containers for export. Imported items will be via the port at Dar es Salam and transported to Chilalo. Power for the operations will be from diesel generators located adjacent to the plant site. Service buildings are located in the south-west of the process plant area with access for graphite product trucks being through the warehouse area. A permanent site accommodation camp will be located to the north-west of the plant. The camp will be for non-resident or FIFO rostered employees and will accommodate 100 personnel. The majority of the workforce will be sourced locally and will commute to Chilalo on a daily basis.
Costs	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 covered by the mining contractor as operating expenditure. 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 Q2 2018 with no allowance for escalation or inflation. The operating costs have been compiled from a variety of sources, including: • Budget quotations received from vendors and/or contractors; • Operating cost database of the consultants; • Estimates based on industry standards from similar operations; and • First principle estimates based on typical operating data.
Revenue factors	The head-grade is derived from the Mineral Resource and Modifying Factors as described above. Prices for different flake sizes and thus, the weighted average basket price were based on information obtained from independent research company, Benchmark Minerals Intelligence and two independent Chinese graphite market specialists. Graphite is not an exchange traded commodity and verifiable pricing information can be difficult to obtain. The Company elected to use the most conservative price information in the Updated PFS.
Social	The Company has held extensive discussions with local communities and local government, both of whom show strong support for development of the Project. The Project is located in the electorate of the Prime Minister, who has expressed support for development of the Project. The Company completed a Relocation Action Plan (RAP) that was approved by communities and by the Government Valuer. Completion of the RAP involved extensive consultation with the local communities in the Project area. The Company has well established relationships with the local communities which has been recognised with several Presidential awards for corporate social responsibility and empowerment.

Schedule and timeframe

The indicative development schedule is shown in the table below.

	Task	2018	2019				2020			
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Bankable feasibility study									
2	Resolution of issues with Tanzanian Government									
3	Decision to mine									
4	Roads, water supply, camp									
5	Mine establishment and pre-strip									
6	Tailings storage facility construction (Starter)									
7	Long lead orders									
8	Process plant fabrication and delivery									
9	Plant construction incl. mobilisation and earthworks									
10	Commissioning									
11	Production									

Marketing assessment

Graphex has undertaken extensive graphite market research including:

- Understanding market applications for various types of graphite;
- Assessing how flake size, product purity and impurities have an impact on pricing;
- Calculation of the Chilalo basket price;
- Engaging independent industrial minerals specialist consultancy Benchmark Minerals Intelligence; and
- Developing relationships with market participants in order to execute binding offtake agreements.

Owing to supply restrictions in China – which accounts for approximately 65% of global graphite supply – driven by a range of factors including enforcement of environmental policy and resource depletion, prices for flake graphite have increased by more than 50% over the past 18 months.

Graphite from each flake size category has different markets and applications. Chilalo graphite exhibits a high proportion of coarse flake material and has been found to have industry leading expansion characteristics, making it ideally suited to the expandable graphite market. Expandable graphite is used in the manufacture of high quality graphite foil, graphite paper, seals and high-quality flame retardants.

CNBM's Group Vice President and President of their Research Institute has stated that China needs 2 million tonnes per annum of expandable graphite.

Graphex has had dialogue with end users, traders and intermediaries across China, Japan, Korea, Europe and North America. Graphex has also provided product samples to numerous potential offtakers. China has been identified as the target market for Graphex's product for the following reasons:

- China accounts for over 95% of the world's expandable graphite capacity which is the primary market for high value coarse flake graphite;
- China's coarse flake graphite reserves have diminished to the point where they are reliant on imports to meet demand; and
- Graphex has developed considerable experience and contacts in China.

Funding	In May 2017, the Company entered into a non-binding term sheet with CN Docking, a subsidiary of CNBM, for the joint development of the Project. Owing to the Amending Legislation and the Regulations, a joint venture arrangement with CN Docking has not been concluded. CN Docking retains its interest in financing and offtake for Chilalo, however negotiations until there is a satisfactory resolution to issues associated with the Amending Legislation and the Regulations, negotiations with CN Docking cannot advance. In recent months, the Company has been in ongoing discussions with another potential financier for funding the development of Chilalo. In May, this potential financier visited Tanzania and China (with the Company) as part of their ongoing due diligence. This Updated PFS is expected to be a key factor in an investment decision being made by the potential financier. The financial, economic and marketing metrics generated under the Updated PFS and the resource base at Chilalo demonstrate that Chilalo has the capacity to deliver a high-value project with potential for mine life extensions. While the Project is economically viable with robust financial metrics under a scenario in which only the Ore Reserve is mined, given the significant quantity of inferred resources and the high degree of confidence that this can be converted to a higher confidence classification, there is potential for significantly improved outcomes resulting from extensions to mine life. The Company has formed the view that there are reasonable grounds to assume that should a satisfactory resolution be reached with the Tanzanian Government regarding the Amending Legislation and the Regulations, it will be able to secure debt and equity finance sufficient to cover the estimated capital and working capital costs as and when required. Going forward, the Company will continue to assess all possible commercial mechanisms to determine the optimum financing solution.
Economic	The financial model uses updated assumptions compared to the 2015 PFS. These differ slightly to the ones applied to the Ore Reserve to better represent the current state of the graphite market. It assumes a discount rate of 10% for a post-tax NPV of approximately US$273M for the Ore Reserve Case and US$349M for the Increased LOM Case. Sensitivity analysis was also conducted on the post-tax NPV for both the Ore Reserve Case and the Increased LOM Case applying a range of discount rates. The discount rate of 10% which was applied in the Updated PFS takes into account the location of the Chilalo Project, the minimal technical risk and the discount rates used in studies by peer companies seeking to develop graphite projects in East Africa. In addition, sensitivity analysis of the NPV was carried out against movements in the feed grade, the weighted average basket price and the capital cost and confirmed that Chilalo was a robust project. No inflation or escalation assumptions have been made. A company tax rate of 30% was applied. Economic analysis was undertaken based on the Ore Reserve pit design. JORC classified Indicated and Inferred Material was included in the analysis; all other material was treated as waste. A post-tax IRR of 130% was calculated from the economic analysis of the Chilalo Graphite Project for the Ore Reserve Case and 131% for the Increased LOM Case. Inputs to the economic analysis include Modifying Factors are as described above.
Other	The Chilalo Project will operate under Mining Licence number ML 569/2017, which covers the full strike length of the Project area. The Company holds Prospecting Licences in the areas surrounding the Mining Licence. There are no known significant naturally occurring risks to the Project.
Classification	The Ore Reserve estimate considers only Indicated Mineral Resources and does not include any quantity of Inferred or unclassified material. Thus, the Ore Reserve estimate comprises of only Probable Ore Reserves. The resulting Ore Reserve estimate appropriately reflects the Competent Person's view of the deposit.

	No Measured Mineral Resource has been estimated for the Chilalo Graphite Project.
Audit or reviews	Other than CSA's audit of the mineral resource, no audit or review has been carried out.

APPENDIX C. JORC 2012 TABLE 1 REPORTING

Section 1. Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Reverse Circulation (RC) drilling was used to collect 1 m downhole samples for the laboratory analysis. • Typically, a 1 to 2 kg sample was collected using a cone splitter or during 2016 drilling, a representative 1/8 sample was collected using a three tier riffle splitter. Samples were composited to 2 m numbered and bagged before dispatch to the laboratory and sent for combustion infrared detection (LECO) analyses. All RC samples were submitted for analysis. • HQ diamond core was geologically logged and sampled to corresponding 2m composite RC intervals when twinning an RC hole, otherwise sampling was to geological contacts with nominal sample lengths between 0.25 and 1.5m. • HQ Quarter core samples were collected by diamond blade rock saw, numbered and bagged before dispatch to the laboratory and sent for LECO analyses. All core samples were submitted for analysis. • CRM's and field duplicate samples were regularly included into the sample stream for both RC and diamond to monitor analytical accuracy and sampling precision. • Sampling is guided by Graphex Mining's standard operating and QA/QC procedures.
Drilling techniques	• Diamond and RC holes were drilled in a direction to intersect the mineralisation orthogonally. • RC holes were drilled using a 140-146 mm face sampling hammer button bit. • The RC drilling was completed using either a Schramm 450 or UDR 650drill rig with additional booster and auxiliary used as required to keep samples dry and produce identifiable rock chips. • Diamond holes were drilled using HQ diameter (63.5mm) core bit with standard inner tubes to target depth. • The diamond drilling was completed using a conventional wire-line core rig. • Core orientations were measured every drilled run, either 3m or 1.5m. • Downhole directional survey was taken every 30m to ensure target was reached.
Drill sample recovery	• Sample quality and recovery of RC drilling was continuously monitored during drilling to ensure that samples were representative and recoveries maximised. • RC Sample recovery was recorded using sample weights. • Diamond core recoveries in fresh rock are measured in the core trays per drilling run. Diamond core is reconstructed into continuous runs and marked with bottom of hole orientation lines. Depths are checked against depths marked on core blocks. Rock Quality Designation (RQD) is also recorded as part of the geological logging process. • Core recoveries were good – typically >95%. • There is no discernible relationship between sample recovery and TGC grade. Diamond twinning of RC holes has demonstrated a minimal downwards bias in RC TGC grade.
Logging	• Detailed geological logging of RC holes captured various qualitative and quantitative parameters including lithology, mineralisation, colour, texture and sample quality. RC holes were logged at 1m intervals. • Detailed geological logging of diamond holes captured various qualitative and quantitative parameters including lithology, mineralisation, alteration, colour, texture and sample quality. • All diamond core has been geologically and geotechnically logged to a level of detail to support Mineral Resource estimation. • Logging data is collected via rugged laptops. The data is subsequently loaded into a

Criteria	Commentary
	dedicated Datashed database for storage, hosted by a database consultant. • RC Chip and Diamond Core is regularly photographed wet and dry. • All holes drilled have been geologically logged in their entireties.
Sub-sampling techniques and sample preparation	• RC samples were sampled dry and routinely taken at 1 m intervals. This was completed either directly with a 1–2 kg sample retrieved from a regularly cleaned cone splitter or a representative 1/8 sample taken from a regularly cleaned three tier riffle splitter. The remainder of the drilled sample was recovered in a large plastic bags. • RC 1 m samples were then composited into a 2 m sample using a laboratory deck splitter, or where possible sampled to nearest 1m geological boundary. • A small fraction of RC samples returned to the surface wet. These samples were dried prior to sampling. All samples were submitted for assay. • All RC samples were labelled such that they corresponded to remainder samples if further analysis was required. • Core was cut with a diamond blade rock saw into half core and then one half into quarter core. A quarter of the core was sent for assay, a quarter for archive and a half for metallurgical test work. • Samples were stored on site prior to being transported to the laboratory. • All samples were marked with unique sequential numbering to ensure controls against sample loss or omission. • Samples were sorted, dried and weighed at the laboratory where they were then crushed and riffle split to obtain a sub-fraction for pulverisation, in preparation for sample analysis. Generally, QC sample insertion rates are every 20th sample (1 standard, 1 blank, 1 site duplicate). Additionally, 1 standard, 1 blank and 1 site duplicate will be inserted for every 20 m of mineralisation intersected. A mineralised zone is a zone greater than 5 m with a visual estimate of more than 5% graphite. Internal dilution of non-mineralisation (up to 5 m) can be included in the mineralised thickness
Quality of assay data and laboratory tests	• All RC and diamond samples were submitted to ALS for both sample preparation and analytical assay. • Samples were sent to the ALS laboratory in Mwanza (Tanzania) for sample preparation. Samples are crushed to >70% passing-2 mm and then pulverised to >85% passing-75 microns. • For all samples a split of the sample is analysed by means of a combustion infrared detection method using a LECO analyser to determine total graphitic carbon (TGC) (ALS Minerals Codes C-IR18). • The majority (97%) of samples have also been assayed for total sulphur by means of a combustion infrared detection method using a LECO analyser (ALS Minerals Code S-IR08). • Laboratory duplicates and standards were also used as quality control measures at different sub-sampling stages. • 76 samples were sent for umpire laboratory testing, with the results validating the accuracy of the primary laboratory assay results. • Examination of all the QA/QC data indicates that the laboratory performance has been satisfactory for both standards, with no failures and acceptable levels of precision and accuracy. • CSA Global is of the opinion that laboratory accuracy and precision has been sufficiently demonstrated to use the drill assay data with a reasonable level of confidence in a MRE.
Verification of sampling and assaying	• Senior Graphex geological personnel supervise the sampling, and alternative personnel verified the sampling locations. External oversight is established with the contracting of an external consultant to regularly assess on site standards and practices to maintain best practice. • Some RC holes have been twinned by diamond drilling core holes to assess the degree of intersection and grade compatibility between the dominant RC samples and the twinned core.

Criteria	Commentary
	• Assay data is loaded directly into the Datashed database which is hosted by and managed by an external database consultancy. • Visual comparisons will be undertaken between the recorded database assays and hard copy records at a rate of 5% of all loaded data. • No adjustments have been made to assay data.
Location of data points	• Drill hole collar locations have been surveyed to plan location using a handheld GPS with an accuracy of <5 m for easting, northing and elevation coordinates. • Drill hole collars were re-surveyed using a Differential GPS with an accuracy of <5 cm at the end of the program. • Collar surveys are validated against planned coordinates and the topographic surface. • Downhole surveys are conducted during drilling using a Reflex single shot every 30 m. • The primary (only) grid used is UTM WGS84 Zone 37 South datum and projection. • The topographic surface used in resource modelling has been generated from a Differential GPS with an accuracy of <5 cm over the resource.
Data spacing and distribution	• The Shimba deposit has been sampled using RC and diamond core drilling over a number of drilling campaigns, with drilling completed on a nominal 200 m by 200 m grid. • Infill drilling has been completed to a grid of roughly 100 m by 50 m over the high graphite grade zone. • Six pairs of diamond core and RC twinned holes are included in the drilling totals.
Orientation of data in relation to geological structure	• All holes have been orientated to intersect the graphitic mineralisation as close to perpendicular as possible. • From surface mapping of the area and VTEM modelling, the regional foliation dips at angles of between 50 and 60 degrees to the south to south-south-west. The drilling was hence planned at a dip of -60/65 degrees oriented 315 to 360 degrees. • The orientation of drilling is not expected to introduce any sampling bias.
Sample security	• All samples are marked with unique sequential numbering to ensure controls against sample loss or omission. This number was retained during the entire process. • The samples were packed at the drill site and sealed prior to transport to the local field office which has 24 hour security, prior to transport by locked commercial truck carrier to ALS Mwanza. • The laboratory (ALS) ships the sealed samples after preparation, to Brisbane in Australia.
Audits or reviews	• An independent consultant from CSA Global, with expertise in graphite, completed a site visit prior to and upon commencement of drilling to ensure the sampling protocol met best practices to conform to industry standards.

Section 2. Reporting of Exploration Results

Criteria	Commentary
Mineral tenement and land tenure status	• The exploration results in this report are from work originally carried out on granted prospecting licence PL 6073/2009 which is owned by Warthog Resources Limited, a wholly owned subsidiary of Graphex • Subsequent Mining Licence approval in late 2016 has enveloped the Shimba mineral resource within ML 569/2017, owned by Ngwena Tanzania Limited, whilst the remainder of original PL 6073/2009 now exists within licence application number PL 11034/2017 also held now by Ngwena Tanzania Limited. •
Exploration done by other parties	• Exploration has been performed by an incorporated subsidiary company of Graphex, Ngwena Tanzania Limited. • Stream sediment surveys carried out historically by BHP were not assayed for the commodity referred to in the announcement.
Geology	• The regional geology is comprised of late Proterozoic Mozambique mobile belt lithologies consisting of mafic to felsic gneisses interlayered with amphibolites and

Criteria	Commentary
	metasedimentary rocks. The mineralisation consists of a series of intercalated graphitic horizons within felsic gneiss (aluminous rich sediments), amphibolites (mafic sourced material) and rarely high purity marble horizons.
Drill hole Information	• All relevant drill hole information has been previously reported to the ASX. No material changes have occurred to this information since it was originally reported. • All relevant data has been reported.
Data aggregation methods	• Not relevant when reporting Mineral Resources. • No metal equivalent grades have been used.
Relationship between mineralisation widths and intercept lengths	• Not relevant when reporting Mineral Resources.
Diagrams	• Refer to figures within the main body of this report.
Balanced reporting	• Not relevant when reporting Mineral Resources.
Other substantive exploration data	• A VTEM geophysical survey was initially completed over a large portion of the Nachingwea Property. It identified numerous anomalies which were likely to be associated with graphite mineralisation. Based on the VTEM data a number of the identified targets were drilled in 2014 and the Shimba high grade deposit was discovered. • DHEM surveys were carried out on 18 of the reverse circulation (RC) drill holes completed in 2014; nine diamond holes completed in 2015; and 5 RC drill holes completed in 2016. The DHEM survey data were acquired by Graphex's in house survey crew and equipment. The aim of the DHEM survey campaign was to detect known and off-hole EM responses associated with graphite mineralisation. • FLEM surveys were carried out during the 2015 field season to collect ground EM data over multiple linear conductive graphitic schist horizons identified in the existing versatile time-domain EM (VTEM) survey data. Graphexs' in-house Zonge GGT-10 transmitter, a SmartEM 24 receiver and a Smart Fluxgate 3-component B-Field sensor and personnel were used for the FLEM surveying. • All other meaningful exploration data concerning the Chilalo Project has been reported in previous reports to the ASX. • No other exploration data is considered material in the context of the Mineral Resource estimate which has been prepared. All relevant data has been described in Section 1 and Section 3 of JORC Table 1.
Further work	• Extensional drilling to the east to test for strike extent based on surface geology mapping indications and on section to test depth extent. • Figures are provided within the main body of this report.

Section 3. Estimation and Reporting of Mineral Resources

Criteria	Commentary
Database integrity	• Data used in the Mineral Resource estimate is sourced from a database export. Relevant tables from the data base are exported to MS Excel format and converted to csv format for import into Datamine Studio 3 software. • Validation of the data import include checks for overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.
Site visits	• Representatives of the Competent Person (CP) have visited the project on several occasions, most recently in June 2015. The CP's representatives were able to review drilling and sampling procedures, as well as examine the mineralisation occurrence and associated geological features. All samples and geological data were deemed fit for use in the Mineral Resource estimate.

Criteria	Commentary
Geological interpretation	• The geology and mineral distribution of the system appears to be reasonably consistent through the core high grade zone. Modelling of the geology of the Chilalo Main deposit has been updated to reflect the results of drilling completed in in 2016. The drilling indicates a strike change in the mineralised units of the Chilalo Main deposit at roughly 471280mE as shown in the figures in the main body of this announcement. The 2016 drilling program also tested a geophysical anomaly to the north of the main deposit (Chilalo North East deposit), and has confirmed the existence of graphitic mineralised gneiss units in this location, as shown in the figures in the main body of this announcement. Further drilling is required primarily at the Chilalo North East deposit to more accurately define the geometry and extents of the mineralised units. Any structural influences are not expected to be significant through the core high grade zone of the Chilalo Main deposit, where the drilling and geophysical data have shown good geological and grade continuity. The CP has taken a conservative approach to Mineral Resource classification of the Chilalo Main deposit along strike where continuity of geology and grade has a lower confidence level. • Drill hole intercept logging, assay results, DHEM and FLEM modelling have formed the basis for the mineralisation domain interpretation. Assumptions have been made on the depth and strike extents of the mineralisation based on drilling and geophysical information. • The extents of the modelled zones are constrained by the information obtained from the drill logging and geophysical data. Alternative interpretations are unlikely to have a significant influence on the global Mineral Resource estimate. • An overburden layer with an average thickness of 4 m has been modelled based on drill logging and is depleted from the model. Graphex geologists have updated weathering logging in drill holes to ensure interpretive consistency across drilling campaigns. This updated weathering data has been provided to CSA Global from which weathering surfaces for base of complete oxidation and top of fresh rock have been generated. • Interpretations of the geological units of the Chilalo Project area have been generated by Graphex geologists. A mineralisation interpretation based on a nominal TGC% cut-off grade of 5% for the core higher grade lenses and a nominal 2% for the surrounding lower grade lenses has been generated by CSA Global and correlated with the geological interpretation reasonably well. • Continuity of geology and grade can be identified and traced between drill holes by visual, geophysical and geochemical characteristics. Additional data is required to more accurately model the effect of any potential structural or other influences on the down dip and strike extents of the defined mineralised geological units. Confidence in the grade and geological continuity is reflected in the Mineral Resource classification.
Dimensions	• In the Chilalo Main deposit the core high grade mineralisation (>5% TGC) interpretation consists of two lenses. The main footwall lens strikes towards 250°, dipping roughly 50° towards 160°, with a strike length of roughly 1.1 km from the north east towards the south west, and a further strike length of roughly 500m, after a strike change to approximately 270° at about 471280mE with a dip roughly 40° towards 180°. The average interpreted depth is approximately 160 m below surface and the true thickness is approximately 25 m for the eastern half and 10 m for the western half. The secondary high-grade lens is interpreted to be 1.1 km long in the hangingwall of the western two thirds of the main lens from roughly 471800mE extending to the west. It is interpreted to be between 40 m in depth in the east, and 150 m in depth in the west, and between 2 m and 15 m in true thickness with a similar strike and dip. The low-grade mineralisation (>2% TGC) lenses enclose the high-grade lenses and are in the hangingwall above them and have similar strike and depth extents over the classified portions of the model. Some of the low-grade lenses are interpreted to continue along strike to the west for approximately 800 m, but these portions of the model are not classified due to insufficient data and therefore lower confidence. These lenses are generally about 5 m

Criteria	Commentary
	to 15 m in true thickness. • At the Chilalo North East deposit the core high grade mineralisation (>5% TGC) interpretation consists of two lenses. The larger hangingwall lens strikes towards 240°, dipping roughly 45° towards 150°, with a strike length of roughly 400 m from the north east towards the south west. The average interpreted depth is approximately 150 m below surface and the true thickness is approximately 17 m for the eastern half and 8 m for the western half. The smaller footwall lens has a very similar strike and dip geometry to the hanging wall lens, but extends about 180 m below surface in the east and 100 m below surface in the west. The average true thickness of this lens is roughly 6 m in the east and 7 m in the west. The interpreted low-grade mineralisation (>2% TGC) lenses enclose the high-grade lenses or are between or in the hangingwall above them. They have similar strike and depth extents to the high-grade lenses. The average true thickness of the two larger low-grade lenses that enclose the high-grade lenses is roughly 40 m in the east to 10 m in the west for the hangingwall lens and the footwall lens is on average about 12 m.
Estimation and modelling techniques	• The mineralisation has been estimated using ordinary kriging (OK). • Two >5% TGC high grade lenses and four >2% low grade lenses were interpreted at the Chilalo Main deposit, with two high-grade and five low grade lenses in the Chilalo North East deposit. • Samples were selected within each lens for data analysis. Statistical analysis was completed on each lens to determine if any outlier grades required top-cutting. • Statistical analysis to check grade population distributions using histograms, probability plots and summary statistics and the co-efficient of variation, was completed on each lens for the estimated element. The checks showed there were no significant outlier grades in the interpreted cut-off grade lenses. The few modestly outlying values were visually assessed and found to reflect true higher grade zones, having some continuity, but which were not large enough to separately model. These areas were checked during the model validation process to verify they did not unduly influence the grade estimation. • An inverse distance to the power 2 (IDS) grade estimate was completed concurrently with the OK estimate in a number of estimation runs with varying parameters. Block model results are compared against each other and the drill hole results to ensure an estimate that best honours the drill sample data is reported. • No mining has yet taken place at these deposits. • No mining assumptions have been made. • Sulphur has been estimated into the model but is not reported. • Interpreted domains are built into a sub-celled block model with a 10 m N by 50 m E by 10 m RL parent block size. Search ellipsoids for each lens have been separately orientated based on their overall geometry. To accommodate the strike change in the interpreted mineralisation lenses in the Chilalo Main deposit additional search ellipsoid orientations have been defined for each affected lens. Sample numbers per block estimate and ellipsoid axial search ranges have been tailored to geometry and data density of each lens to ensure the majority of the model is estimated within the first search pass. The search ellipse is doubled for a second search pass and increased 20 fold for a third search pass to ensure all blocks are estimated. Sample numbers required per block estimate have been reduced with each search pass. • Hard boundaries have been used in the grade estimate between each individual interpreted mineralisation lens. Soft boundaries are used within each lens to accommodate the strike changes and associated adjusted search ellipsoids. • Validation checks included statistical comparison between drill sample grades, the OK estimate and the IDS estimate results for each zone. Visual validation of grade trends along the drill sections was completed and trend plots comparing drill sample grades and model grades for northings, eastings and elevation were completed. These checks show

Criteria	Commentary
	reasonable correlation between estimated block grades and drill sample grades. • No reconciliation data is available as no mining has taken place.
Moisture	• Tonnages have been estimated on a dry, *in situ* basis, and samples were generally dry. No moisture values could be reviewed as these have not been captured, with core samples being dried before density measurements.
Cut-off parameters	• Visual analysis of the drill assay results demonstrated the higher grade zones interpreted at the nominal lower cut-off grade of 5% TGC corresponds to a natural grade change from lower to higher grade mineralisation. The lower cut-off interpretation of 2% TGC corresponds to natural break in the grade population distribution. Graphex verbally confirmed that early indications from metallurgical testing show that the lower grade material is capable delivering good quality flake material. Since this material is also primarily located in the hangingwall, and it would need to be mined in an open cut to access deeper portions of the higher grade zones, it has been classified as Inferred as it may be possible to economically beneficiate.
Mining factors or assumptions	• It has been assumed that these deposits will be amenable to open cut mining methods and are economic to exploit to the depths currently modelled using the cut-off grade applied. • No assumptions regarding minimum mining widths and dilution have been made.
Metallurgical factors or assumptions	• **2015 'Chilalo Main' Mineral Resource:** thirty two quarter-core samples from four boreholes were selected for thin section examination by Townend Mineralogy, mainly to identify weathering zones and to assess graphite flake size and likely liberation characteristics. • Minerals such as jarosite, opaline silica, clays and goethite have replaced Fe-sulphides and silicate minerals to depths of 20 to 30 metres down-hole. This mineral assemblage is interpreted to define the Oxidised Zone. • There is significant weathering / alteration in the high-grade graphite domain, resulting particularly in the breakdown of sillimanite to kaolin which occurs to depths of approximately 50 metres down-hole. The occurrence of kaolinised sillimanite (plus Fe sulphides) is interpreted to define the Transitional Zone. • There appears to be two graphite populations in terms of flake width: i) thin flakes generally less than about 100 micron width and up to about 1mm in length, in lithologies with between about 2 and 5% TGC and ii) flakes up to 1mm thick and several mm in length in rocks with more than about 5% graphite. • Metallurgical composites were prepared at SGS laboratory in Perth from diamond drill core, to form representative fresh and transitional ore samples. • The metallurgical composites were crushed to minus 3.35 mm and demonstrate that highest TC grades are in the coarse size fractions greater than about 0.25 mm; • Cleaner flotation test work on fresh and transitional composites using five stages of cleaning produced final graphite concentrates at target grade TGC>94% and up to 95% graphite recovery, maintaining a favourable coarse PSD (40 to 70% of the flakes are >150 micron). • Test work on oxide composites using a standard flotation procedure has demonstrated high graphite recovery. • The preliminary test work program demonstrated that the mineralisation is amenable to the production of high grade graphite concentrates, at coarse flake sizes, using relatively simple flotation processes. • Additional metallurgical testwork on each mineralisation and weathering domain is required to verify and refine the initial findings • **2017 'Chilalo North East' Mineral Resource:** nineteen composite RC chip samples from three boreholes NRC16-181, 184 and 185 were selected for thin section examination by Townend Mineralogy. The objective was to identify weathering zones, to assess graphite flake size and likely liberation characteristics in addition to comparison with the Main

Criteria	Commentary
	Deposit. • It is cautioned that RC chip samples are not expected to be as representative as DD core samples, given that the RC chips exclude fine powders generated by the RC percussion method. • Minerals such as jarosite, opaline silica, clays and goethite have replaced Fe-sulphides and silicate minerals to depths of 15 to 30 metres down-hole. This mineral assemblage is interpreted to define the Oxidised Zone. • The occurrence of partially kaolinised sillimanite and / or feldspars (plus unoxidised Fe-sulphides) is interpreted to define the Transitional Zone which extends to about 30 to 60m downhole. The higher-grade parts of the deposit appear to be more deeply weathered than low grade, or unmineralised lithologies. • There are several graphite populations in terms of flake width: i) thin elongate flakes generally less than about 0.1mm width and up to about 1mm in length, ii) flakes up to about 0.5 mm thick and several mm in length and iii) very small flakes less than about 0.1mm in length especially within felsic porphyroblasts. It is anticipated that the population of very small flakes <0.1mm length may not be recoverable, however as this population does not appear to be significant, this is not expected to materially affect overall metallurgical recoveries. • Graphite flakes observed from the high-grade zone of the North East deposit are visually similar to flakes observed from the Main deposit, in terms of shape, size and textural relationships. This suggests that the high-grade part of the North East deposit may have similar metallurgical process response to the Main deposit. • One composite from hole NRC16-184 (26-54 m) was prepared on site at Chilalo from RC chips from the Northeast Mineral Resource and were screened to produce two metallurgical composites of minus 0.5 mm and plus 0.5 mm respectively. The samples were submitted to SGS Perth for flotation tests during January 2017. • RC chips are not typically used for flake graphite metallurgical tests, due to the pulverising effect of the RC drill method which reduces flake size. It is considered likely that the use of RC chips would yield a conservative result (with higher fraction of fines) compared with DD samples, therefore should not present a material risk to the classification of the North East deposit as an Inferred Mineral Resource. • The minus 0.5 mm composite was processed 'as received' and the plus 0.5 mm composite was processed after grinding to P80 = 0.71 mm. • Flotation test work using a rougher stage followed by four stages of cleaning produced a final graphite concentrate with >96% TGC and up to 97% recovery for the minus 0.5 mm composite. The grade of the plus 0.5 mm composite has not yet been determined, but is expected during early February 2017. • Additional metallurgical testwork on each mineralisation and weathering domain is recommended to verify and refine the initial findings. It is recommended that testwork be carried out in future on drill core samples, rather than RC samples.
Environmental factors or assumptions	• No assumptions regarding waste and process residue disposal options have been made. It is assumed that such disposal will not present a significant hurdle to exploitation of the deposit and that any disposal and potential environmental impacts would be correctly managed as required under the regulatory permitting conditions.
Bulk density	• *In situ* dry bulk density values have been applied to the modelled mineralisation based on the average measured values for each of the weathering zones. Of the 1,141 measurements taken that were considered valid for analysis, 12 are in the interpreted overburden zone, 197 fall within the interpreted weathered zone, 559 in the transitional zone and 373 in the fresh zone. • Density measurements have been taken on drill samples from all different lithological types, using water displacement methods. • Weathered material was wax coated prior to immersion, while the non-porous

Criteria	Commentary
	competent rock did not require coating. • It is assumed that use of the average measured density for each of the different weathering zones is an appropriate method of representing the expected bulk density for the deposit.
Classification	• Classification of the Mineral Resource estimates was carried out taking into account the level of geological understanding of the deposit, quality of samples, density data and drill hole spacing. • The Mineral Resource estimate has been classified in accordance with the JORC Code, 2012 Edition using a qualitative approach. All factors that have been considered have been adequately communicated in Section 1 and Section 3 of this Table. • Overall the mineralisation trends are reasonably consistent over numerous drill sections. • The Mineral Resource estimate appropriately reflects the view of the Competent Person.
Audits or reviews	• Internal audits were completed by CSA Global which verified the technical inputs, methodology, parameters and results of the estimate. No external audits have been undertaken.
Discussion of relative accuracy/ confidence	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. • The Mineral Resource statement relates to global estimates of *in situ* tonnes and grade.

Section 4. Ore Reserve, JORC 2012 modifying factors (Table 1, Section 4)

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The Mineral Resource estimate for the Chilalo Graphite Project is based on information compiled by Mr Grant Louw under the direction and supervision of Dr Andrew Scogings, who are both full-time employees of CSA Global Pty Ltd. Dr Scogings takes overall responsibility for the reporting of Mineral Resources. Dr Scogings is a Member of both the Australian Institute of Geoscientists and Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralization and type of deposit under consideration, and to the activity he is undertaking, to quality as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves' JORC Code 2012 Edition). • The Mineral Resource estimate is classified based on wireframes reflecting the confidence in the interpreted mineralization continuity, structural and weathering profile controls, data quality and quantity, and sufficient metallurgical data to provide sufficient confidence for recovery. CSA Global objectively considers the Mineral Resource has reasonable prospected for eventual economic extraction. Work completed to date allows a sufficient level of confidence to classify the majority of the high-grade Mineral Resource as Indicated. • The Mineral Resource estimate is reported inclusive of the Ore Reserve estimate.
Site visits	• The Competent Person, Mr Karl van Olden of CSA Global Pty Ltd visited the Chilalo Graphite Project in May 2015. • The site visit comprised of an inspection of the deposit outcrops and drill sites. The proposed Project area including access roads, proposed process plant site and surrounding areas were visited and inspected on foot by the competent person. Drill core from selected bore holes and outcrop mapping were also inspected during the site visit. The site visit confirmed the status of the Project area and location as reported in the various studies that support this Ore Reserve estimate for the Chilalo Graphite Project.
Study status	• A PFS was completed by Graphex Mining Limited for the Chilalo Graphite Project. The study proposed an operation processing 500 kt/a of ROM throughput for 2 years followed by 1 Mt/a from year 3 of production onwards. The PFS addressed key technical

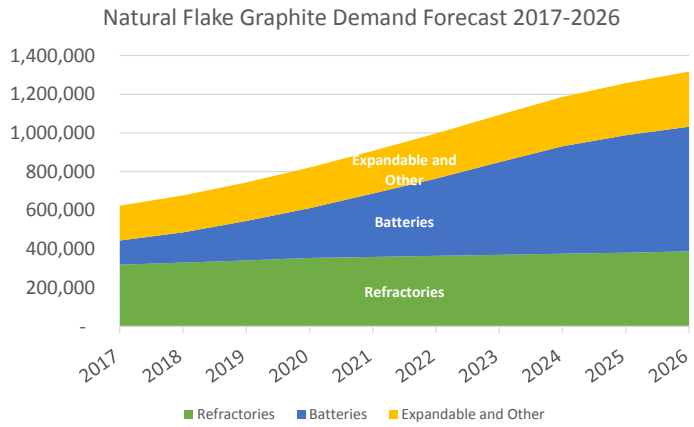
Criteria	Commentary
	and economic parameters relating to the Chilalo Graphite Project to an appropriate level of confidence. The PFS found that the Project is physical and economically viable with a strong Internal Rate of Return and a Pay-Back of less than one year. The PFS considers two scheduling scenarios, the first processing only Ore Reserves producing a mine life of approximately 6.3 years; and the second processing Indicated and Inferred Mineral Resources producing a mine life of approximately 8.5 years. This Ore Reserve estimate considers the Indicated only portion of the Chilalo Graphite Project's Mineral Resource estimate, applying all of the Modifying Factors, parameters and considerations of the PFS. • The work undertaken to date has addressed all material Modifying Factors required for the conversion of a Mineral Resources estimate into an Ore Reserve estimate and has shown that the mine plan is technically feasible and economically viable.
Cut-off parameters	• The revenue generated from a graphite operation is primarily driven by the flake size distribution of the product. The flake proportion over a series of size categories determines the basket price of the product. The carbon grade (TGC) is not directly related to flake size. This Ore Reserve estimate is based on a cut-off grade of 8% TGC. This cut-off grade is based on a distinct population step in the Mineral Resource estimate at this grade and a link identified in the mineralogy of the deposit where flake size distribution has a step movement above 8% TGC. Project economics from the total Project have been considered at the end of the Project iteration to confirm that the cut-off criteria support economic operations for the Chilalo Graphite Project.
Mining factors or assumptions	• Input parameters for the pit optimsiations were; mining costs based on mining contract rates from within CSA Global's cost database of comparable projects in the region; pit geotechnical parameters were provided by OHMS geotechnical consultants; mineral processing costs and recoveries from the Battery Limits PFS; commodity price for a 94% TGC graphite product. These input parameters were reviewed by CSA Global and are considered appropriate for the current graphite world markets. WhittleTM software applied these parameters to the Resource Block Model to estimate an appropriate pit shell which was used as a basis for the pit design. The current pit design is considered suitable for Ore Reserve estimation. • A traditional excavator and articulated dump truck configuration have been selected based on a maximum annual mining rate of 8 Mt/a and is appropriate for the design, bench height, mining dilution and recovery applied in the PFS. Operations include drill and blast activities for the majority of the open pit mining. The selected mining approach is typical for a small to medium scale open pit mining operation. • Geotechnical analysis has been undertaken by Open House Management Solutions (OHMS). The proposed pit slopes are considered likely to be stable for the current pit design. • The Mineral Resource Block Model was estimated by CSA Global. The Mineral Resource Block Model was used for pit optimization and mine planning after inclusion of additional attributes. The Block Model has block sizes of 50 x 10 x 10 m for the pit designs which is considered suitable for the proposed mining method and equipment selection. • A fixed value of 10% was used for mining dilution in both pit optimisations and mining and production scheduling. A grade of 0% TGC was assumed for dilution material. • A fixed value of 95% was used for mining recovery in both optimisations and mining and production scheduling. • A minimum mining width of 25 m and a minimum cutback width of 30 m was used in the pit design. The pit design has a dual lane ramp of 20 m and a single lane ramp of 10 m for the final 30 vertical metres. The pit design maintains the ramp on the footwall of the deposit. • Inferred Mineral Resources have not been included in the pit design or Ore Reserve estimate. A mining and production schedule was completed with Inferred Mineral Resource treated as waste and concluded that conversion of Inferred Mineral Resource

Criteria	Commentary
	to processed product is not required for the overall financial viability of the Chilalo Graphite Project. • The Chilalo Graphite Project's PFS addresses the requirements of all site-based infrastructure, power, water, and logistics to establish, build and operate the Project. The planning of these requirements in the PFS comprised of design, budget estimates from suppliers and detailed cost estimates to a PFS level of confidence. The appropriate costs of infrastructure and logistics for the establishment and support of the proposed operation are included in the cost estimates for the Project.
Metallurgical factors or assumptions	• Representative samples have been used to assess the Chilalo Graphite Project mineralisation's amenability to beneficiation by froth flotation, and also to identify the nature, flake size and occurrence of graphite in a selection of drill core samples and flotation products. The testwork was completed by SGS Minerals Services in both 2015 and 2017. • The proposed metallurgical process is well established and used successfully in industry for the recovery of graphite. • A representative testwork program completed by SGS Mineral Service demonstrates that the ore of the Chilalo Graphite Project is amenable to the production of high-grade graphite product from oxide, transitional, and fresh ore types. • The proposed process has ROM ore crushed in two stages; grinding comminution taking place using a rod mill at a target grind P80 of 600 µm; rougher and scavenger flotation concentrates go through multi-stage cleaning with polishing mill regrind prior to each cleaner step; final product to be dewatered prior to being dried, sized and packaged; tailings to be thickened for water recovery with tailings discharged to a tailings storage facility.
Environmental	• Graphex Mining Limited has prepared and submitted to the Tanzanian government, an Environmental and Social Impact Assessment (ESIA) and an Environmental Management Plan (EMP) as part of the process of granting mining licenses for the Project. The mining license application was submitted and obtained in February 2017. The Chilalo Graphite Project has been issued with an Environmental Certificate by the National Environment Management Council of Tanzania. This certificated is a pre-requisite for the granting of a Mining License. The appropriate environmental considerations of the Project are included in the Project planning.
Infrastructure	• The Chilalo Graphite Project's PFS addresses the requirements of all site-based infrastructure, power, water, and logistics to establish, build and operate the Project. The planning of these requirements in the PFS comprised of design, budget estimates from suppliers and detailed cost estimates to a PFS level of confidence. The appropriate costs of infrastructure and logistics for the establishment and support of the proposed operation are included in the cost estimates for the Project.
Costs	• The capital cost estimate used in the PFS has been compiled based on the design, supply, fabrication, construction, and commissioning of a new graphite processing plant in Tanzania and includes mining equipment, supporting infrastructure, and indirect costs. The estimate for the processing facility is based on the preliminary process design, process design criteria and equipment list, and process flowsheets. Capital estimates have been based upon budget prices quotations for major equipment, in-house data from recent Projects, and industry standard estimating factors for equipment and installation costs. The capital cost estimates presented in the PFS are considered to have an overall accuracy of +/-25%. The capital cost estimate has been developed in US$. • The operating cost estimate used in the PFS includes all costs associated with mining, processing, infrastructure, and site-based general and administration costs. The operating cost estimates have been developed in US$. The operating cost estimate is presented on an annual basis and there has been no allowance for contingency applied. The operating cost estimate has been prepared to an accuracy of +/- 25%. The operating costs have been estimated from a variety of sources, including; budget quotations

Criteria	Commentary
	received from suppliers; operating cost databases; wages and salaries provided by Graphex Mining Limited and industry sources; estimated based on industry standards from similar operations; first principle estimates based on typical operating data; the mining operating cost estimates have been prepared by CSA Global.
Revenue factors	• Graphite does not trade on a designated metal exchange, nor does it have a benchmark index. Prices are negotiated directly between buyers and sellers. Given the graphite industry has historically been dominated by private companies, access to reliable graphite pricing data is difficult to obtain. There are also numerous products across several grades and flake sizes and prices differ depending on these characterisations. • Pricing applied for the PFS and for this Ore Reserve estimate was determined from a range of sources. Graphite sector analyst forecasts were the basis of pricing in conjunction with indicative prices sourced from ongoing discussions with potential customers and potential offtake partners. The price for the flake size categories was then compared to a peer group to determine if they were within reasonable range.

Market assessment	• Medium and long-term supply and demand modeling for graphite product is difficult to predict due to the different product uses, growth in demand, and promise of supply.
	• Graphex Mining Limited engaged Benchmark Mineral Intelligence to provide a strategic graphite market report for the Chilalo Graphite Project. Benchmark Mineral Intelligence is an independent publishing business focused on critical mineral supply chains and disruptive technologies. An initial report was provided in July 2015 and a specific expandable graphite report was provided in 2016.
	• Graphite does not trade on a designated metal exchange, nor does it have a benchmark index. Prices are negotiated directly between buyers and sellers. Given the graphite industry has historically been dominated by private companies, access to reliable graphite pricing data is difficult to obtain. There are also numerous products across a number of grades and flake sizes and prices differ depending on these characteristics.
	• Graphite from each flake size category has different markets and applications. The most common flake sizes measured in US mesh sizes are:
	  ○ Super jumbo flake: +32 mesh
	  ○ Jumbo flake: +50 mesh
	  ○ Large flake: +80 mesh
	  ○ Medium flake: +100 mesh
	  ○ Small flake: -100 mesh
	• Larger mesh sizes are sometimes required for more specialised applications, while flake graphite fines (-100 mesh and smaller) are a by-product of all deposits which have less commercial value. Flake graphite is mainly sold in private contracts between the buyer and seller that are negotiated on a regular basis where prices are set.
	• Testing of the Chilalo graphite product indicates that Graphex Mining Limited is well positioned to provide to the expandable graphite market.
	• Chilalo reports a higher proportion of +20 mesh product compared to other products on the market, creating a competitive advantage in the expandable graphite market.
	• Demand for natural flake graphite is in a state of flux where mature applications are being rapidly displaced by emerging applications attributable to technology developments. The chart below demonstrates this in that refractories are forecast to remain flat for the long term while battery applications and expandable graphite offer the most growth prospects.

Criteria	Commentary



Source: Roskill 2017

- The weighted average basket price is based on information obtained from CN Docking and a reputable Chinese trading house. Of these sources, the most conservative estimates were used in the Updated PFS. Graphex has also obtained pricing information from Benchmark Mineral Intelligence. The price for the flake size categories used in the Updated PFS has been compared to other independent sources and a peer group to determine if they were within a reasonable range.
- There is a positive correlation between graphite purity and price. Higher purity graphite product demands a higher price because it requires more processing on the producer side to remove impurities/volatiles within the graphite and opens the product to more applications. The premium for purity is generally not as high as the premium for coarser flake size, and increased purity generally requires additional grinding of the graphite which would sacrifice coarse flake generation.
- In general, larger flake sizes demand a price premium due to producing premium products (expandable graphite applications) and tighter supply conditions. Larger flake material offers greater strength to products due to the structure of the particles. This is a primary reason for its market use. The scarcity of graphite with a flake size exceeding +80 mesh means there is an escalation in process above this size.
- The below table shows the July 2018 FOB China pricing used as a basis for the PFS and excludes 17% VAT from selling into China:

Weighted average basket price – Chilalo

Flake Size	Microns	Mesh	Mass Dist. %	Grade TGC %	Price (US$/t)[1]	Basket Sales Price (US$/t)
Above Super Jumbo	> 850	20	9	93.4	5,150	437
Super Jumbo	500 – 850	32	24	90.3	2,540	620
Jumbo	300 – 500	50	24	88.6	1,757	427
Large	180 – 300	80	9	98.7	974	83
Medium	150 – 180	100	5	98.8	779	39
Small	< 150	-100	29	97.4	583	171
Weighted Basket Sales Price (Mass Dist. % x Price) (FOB Mtwara)						**$1,777**

1. US$: RMB exchange rate of 1:6.55.

Economic	• The economic analysis is based on cash flows drive by the production schedule. The cash flow projections include initial and sustaining capital; mining, processing and product

Criteria	Commentary
	logistics costs to the customer; revenue based on an appropriate basket price adjusted for fees, charges, and royalty; and a 10% discount factor. • Sensitivity analysis was undertaken for a +/- 20% variation on the key Project financial metrics including: basket price; feed grade variability; operating costs; and development and sustaining capital costs. In all sensitivity cases, the NPV of the project was positive.
Social	• Local, regional and national stakeholders have been engaged in the development and planning of the Project. • A relocation action plan (RAP), has been established to address the relocation and compensation of community members who are affected by mining operations. • Appropriate permitting for issues such as dewatering and river diversions are being addressed through the appropriate processes.
Other	• Graphex Mining Limited is conducting advanced discussions with potential buyers of the graphite product regarding offtake agreements and potential investment in the company.
Classification	• The Ore Reserve estimate considers only Indicated Mineral Resources and does not include any quantity of Inferred or unclassified material. Thus, the Ore Reserve estimate comprises of only Probable Ore Reserves. • The result appropriately reflects the Competent Person's view of the deposit. • No Measured Mineral Resource have been estimated for the Chilalo Graphite Project.
Audits or reviews	• The Ore Reserve estimate has been subject to internal review within CSA Global. It has not yet been subject to independent third-party review.
Discussion of relative accuracy/ confidence	• The estimates in the PFS relating to mining, processing, and cost performance have a confidence range of +/-25%. • A key parameter of the estimate is the value of the basket price received for the product. This is based on reliable metallurgical testwork to determine proportions of each flake size category in the product. The estimated price received for the combined product is based on a credible estimate of the expected price as of the Project base data. As with all commodities, the actual price received will depend on market conditions and contractual arrangements at the time of sale. A sensitivity analysis was completed in the financial model for basket price reductions of 20% and the Project value remains positive at this point. • The estimate is based on a detailed block model of the Resource and a detailed mine design. The Ore Reserve estimate is based on spatially supported and explicit mining schedule.

Competent Persons Consents

Mineral Resource Estimates

The information in this announcement that relates to in situ Mineral Resources for Chilalo, is based on information compiled by Mr. Grant Louw under the direction and supervision of Dr Andrew Scogings, who are both full-time employees of CSA Global Pty Ltd ('**CSA**'). Dr Scogings takes overall responsibility for the report. Dr Scogings is a Member of both the Australian Institute of Geoscientists and Australasian Institute of Mining and Metallurgy and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC Code, 2012 Edition**). Dr Scogings consents to the inclusion of such information in this announcement in the form and context in which it appears.

Ore Reserve Estimate

The information in this announcement that relates to the Ore Reserve at the Chilalo Project is based on information compiled by Karl van Olden, a Competent Person, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Karl van Olden is employed by CSA. Mr van Olden has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the JORC Code 2012 Edition. Mr van Olden consents to the inclusion of such information in this announcement in the form and context in which it appears.

Metallurgy

The information in this announcement that relates to metallurgical test work management, interpretation of results and process design for a PFS level assessment is based on information compiled and reviewed by Mr David Pass, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pass is an employee of BatteryLimits Pty Ltd (**BatteryLimits**). Mr Pass has sufficient experience relevant to the mineralogy and type of deposit under consideration and the typical beneficiation thereof to qualify as a Competent Person as defined by the JORC Code 2012 Edition. Mr Pass consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears.

Engineering

The information in this announcement that relates to the process plant and infrastructure design for a PFS level assessment is based on information compiled and reviewed by Mr David Pass, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pass is an employee of BatteryLimits. Mr Pass has sufficient experience relevant to process plant and infrastructure design thereof to qualify as a Competent Person as defined by the JORC Code 2012 Edition. Mr Pass consents to the inclusion in the report of the matters based on the reviewed information in the form and context in which it appears.

Forward Looking Statements

This news release includes certain "forward-looking statements". Forward-looking statements and forward-looking information are frequently characterised by words such as "plan," "expect," "project," "intend," "believe," "anticipate", "estimate" and other similar words, or statements that certain events or conditions "may", "will" or "could" occur. All statements other than statements of historical fact included in this release are forward-looking statements or constitute forward-looking information. There can be no assurance that such information or statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such information. Important factors could cause actual results to differ materially from Graphex's expectations.

These forward-looking statements are based on certain assumptions, the opinions and estimates of management and qualified persons at the date the statements are made and are subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking statements or information. These factors include, but are not limited to the inherent risks involved in the exploration, development and mining of mineral properties; geological, mining and processing technical problems; the inability to

obtain mine licenses, permits and other regulatory approvals required in connection with mining and processing operations; competition for among other things, capital, acquisitions of reserves, undeveloped lands and skilled personnel; various events that could disrupt operations; the possibility of project cost overruns or unanticipated costs and expenses; and the ability of contracted parties to provide services as contracted.

Graphex undertakes no obligation to update forward-looking statements or information if circumstances should change. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. The reader is cautioned not to place undue reliance on forward-looking statements or information. Readers are also cautioned to review the risk factors identified by Graphex in its regulatory filings made from time to time with the ASX.

Statements regarding plans with respect to the Company's mineral properties may contain forward looking statements. Statements in relation to future matters can only be made where the Company has reasonable basis for making those statements.

The Company believes it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any production targets, based on the information contained in this announcement and in particular:

- The PFS was completed by BatteryLimits, which envisages the development of the Ore Reserve Case based on the Ore Reserve and Mineral Resource estimate provided by CSA. BatteryLimits has compiled the capital and operating costs estimates and provided sign-off for the PFS level cost estimates (excluding owner's costs) based on the mining schedule and estimated mine operating costs provided by CSA and capital and operating costs for the process plant compiled by BatteryLimits. Dave Pass, the Study Manager from BatteryLimits, has visited the Chilalo site and held discussions with service providers in Tanzania for the Project.
- Additional capital and other operating costs including non-process infrastructure, product transportation and general and administration, were developed by BatteryLimits from internal databases and Tanzanian inquiries.
- The Production Target referred to in this announcement is partly based on Inferred Mineral Resources (being 30%). There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target or economic outcomes will be realised. The historical conversion rate of Inferred Mineral Resources to Indicated has been very favourable, and the Company expects to be able to continue to increase the Chilalo Ore Reserves at a similar rate and upgrading these Mineral Resources.
- The Study is sufficient to be considered PFS level with approximate accuracy of ±25%.

The Study Team

The Updated PFS was undertaken by independent experts with substantial experience in the graphite sector and resources projects in East Africa. Graphex would like to acknowledge the Study team, which included:

BatteryLimits	Study Manager, Engineering Design and Metallurgy
CSA Global	Mineral Resource and Geology
ATC Williams	Tailings Storage Facility
Knight Piésold	Water

Greg Entwistle was engaged by the Company as the Graphex Project Manager. Mr Entwistle has successfully delivered projects in remote areas of Australia, Asia and Africa.