28 August 2019

GRAPHEX DELIVERS 73% INCREASE IN CHILALO HIGH-GRADE INDICATED MINERAL RESOURCE

HIGHLIGHTS

- **Chilalo's high-grade Indicated Mineral Resource increased to 10.3Mt grading 10.5% Total Graphitic Carbon (TGC) for 1.1Mt of contained graphite (a 73% increase in contained graphite)**
- **19% increase in Chilalo's total high-grade[1] Mineral Resource, which now stands at 20.1Mt grading 9.9% TGC, comprised of:**
  - **Indicated Resource of 10.3Mt grading 10.5% TGC for 1.1Mt of contained graphite**
  - **Inferred Resource of 9.8Mt grading 9.3% TGC for 0.9Mt of contained graphite**
- **The Mineral Resource increase will underpin the upcoming Definitive Feasibility Study and is expected to result in an increase in Ore Reserves, extending the project mine life**

Graphex Mining Limited (ASX: GPX) ('**Graphex**' or the '**Company**') is pleased to report a substantial increase in the Mineral Resource estimate at its Chilalo Graphite Project, located in south-east Tanzania, as detailed below in Table 1.

The Company completed a 22-hole (totalling 2,083m) infill diamond drilling program designed to underpin the upcoming Definitive Feasibility Study. Results have successfully delivered a substantial conversion of Inferred Resources into the Indicated Mineral Resource category, which now stands at 10.3Mt grading 10.5% TGC – a 73% increase in the Indicated category from the previous estimate[2].

Given the Project's exceptional economics and that the mineralisation for the Indicated Mineral Resource is estimated to be continuous from surface to an approximate vertical depth of 150m, the Company expects a strong conversion of Mineral Resources to Ore Reserves upon completion of the upcoming Definitive Feasibility Study, expected in Q4 2019.

Graphex's Managing Director, Phil Hoskins commented: *"We are extremely pleased that infill drilling has significantly upgraded our confidence in the Chilalo deposit with the latest results representing a 73% contained graphite increase in the Indicated Resource category. We are confident that the expected increase in Ore Reserve[3] will significantly extend the mine life and underpin project financing. Further to this, we are confident Chilalo has the potential for further extensions to mine life given the substantial strike length of untested, high-quality electromagnetic targets on our tenements.*

[1] High-grade Mineral Resource defined above a nominal 5% TGC cut-off
[2] ASX announcement 2 February 2017 - 80% Upgrade to High-Grade Graphite Resource at Chilalo
[3] ASX announcement 20 September - 2018 Updated Pre-Feasibility Study Confirms Exceptional Economics of Chilalo Project

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"The next 6 months for Graphex will be transformational as we work towards the completion of our DFS and unlocking our US$80 million funding package. The Company is excited to enter the next phase of its journey as it strives to be the producer of choice for coarse flake graphite to the evolving expandable graphite market."

Table 1. Updated Chilalo Mineral Resource[1]

Domain	Classification	Zone	Million Tonnes (Mt)	TGC (%)	Contained Graphite (Kt)
High Grade	Indicated	Main	9.2	10.6	982
		North East	1.0	9.5	100
		All	**10.3**	**10.5**	**1,082**
	Inferred	Main	7.4	9.5	704
		North East	2.3	8.8	205
		All	**9.8**	**9.3**	**908**
	Indicated + Inferred	**All**	**20.1**	**9.9**	**1,991**
Low Grade	Inferred	Main	37.8	3.4	1,282
		North East	9.5	4.1	394
		All	**47.3**	**3.5**	**1,677**
High Grade + Low Grade	**Indicated + Inferred**	**All**	**67.3**	**5.4**	**3,667**

1. 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 above a lower cut-off of 2% TGC within these wireframe solids. Differences may occur due to rounding.

This Mineral Resource update incorporates the results from the latest infill drilling program of 2,083m in 22 drill holes. The primary aim of the drilling program was to upgrade the Mineral Resource classification and increase the Ore Reserve in order to provide sufficient certainty on the project economics to underpin project financing. This drill program also incorporated geotechnical and sterilisation drilling. With all of these programs completed, the Company expects to update the Ore Reserve estimate as part of the Definitive Feasibility Study, which is scheduled to be completed in Q4 2019.

The high-grade resource is part of the total Indicated and Inferred Mineral Resource estimate of 67.3Mt grading 5.4% TGC for 3.7Mt of contained graphite, which includes a low-grade Inferred Resource of 47.3 Mt grading 3.5% TGC for 1.68Mt of contained graphite (Table 1). Low-grade material (ore that is less than 5% TGC) will be stockpiled and be available for processing at the end of the mine life.

Figures 1 and 2 below show the grade and the classification of the updated resource.

Figure 1. Image showing the grade of the high-grade resource

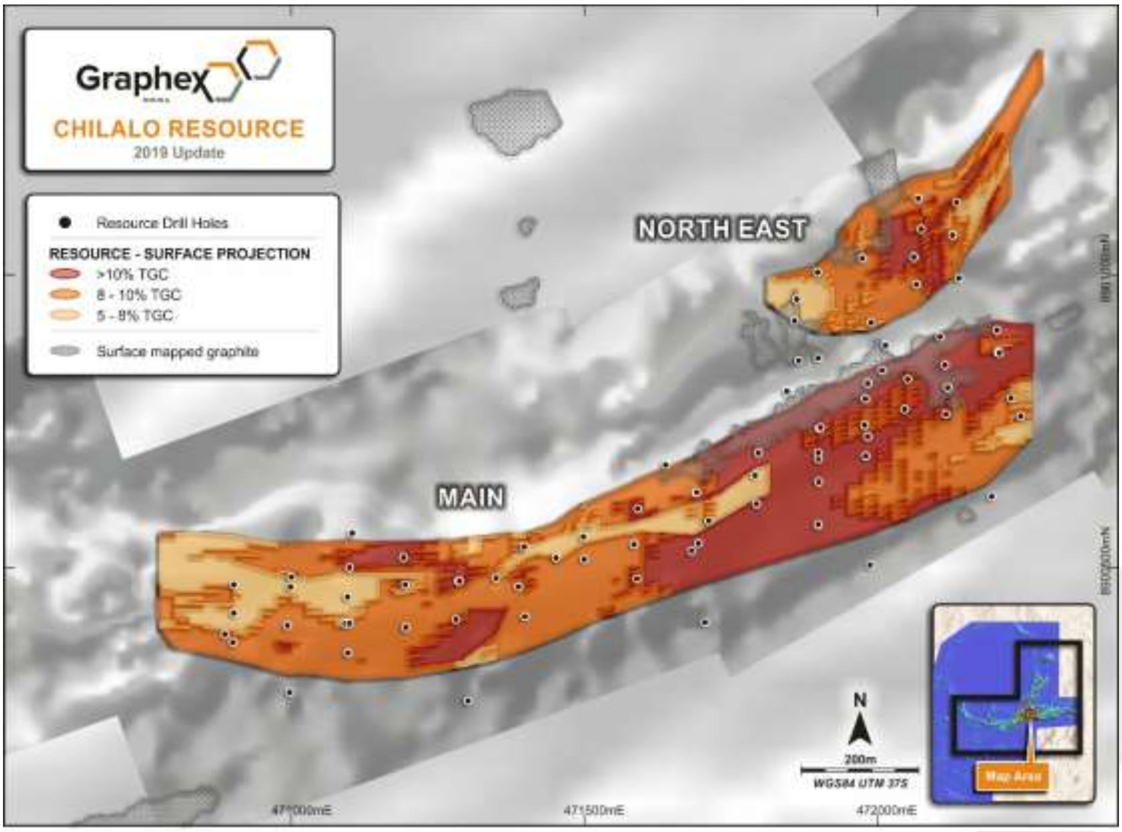
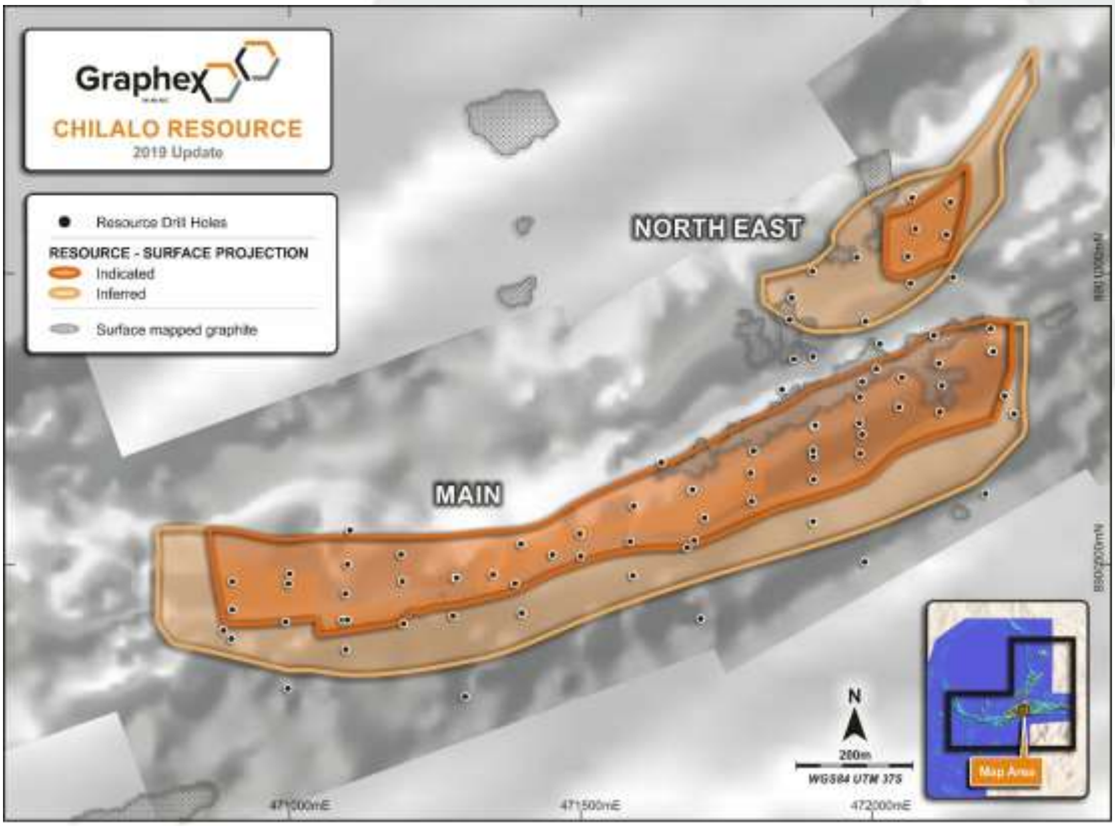


Figure 2. Classification of updated Chilalo Mineral Resource



APPENDIX 1. Technical Summary – Information and data applicable to Mineral Resource estimation (ASX Listing Rule 5.8.1)

ASX Listing Rule 5.8.1 requirement	Commentary
Geology and Geological Interpretation	Graphite mineralisation at Chilalo occurs as disseminated flakes in a series of intercalated graphitic gneisses horizons within a package of felsic gneiss (metamorphosed siliceous and aluminous sediments), amphibolites (metamorphosed mafic sourced material) and rare high purity marble horizons of the late Proterozoic Mozambique Belt. High-grade graphitic gneiss horizons have been interpreted based on a lower cut-off grade of 5% TGC, within a lower grade halo of graphitic gneiss interpreted above a lower cut-off grade of 2% TGC. Two weathering profile surfaces representing the base of complete oxidation and top of fresh rock were modelled, based on drill hole lithological logging information, drill core photography, petrography and total sulphur assay results. The overburden surface of transported and reworked materials with an interpreted thickness of 2.5 m is depleted from the model.
Sampling and Drilling	Samples were obtained from reverse circulation percussion (RCP) and diamond core (DD) drilling. Quality of drilling, sampling and analysis as assessed by the Competent Person, is of an acceptable standard for use in a Mineral Resource estimate publicly reported in accordance with the JORC Code.
Sample Analysis Method	Graphitic carbon was analysed using a standard induction furnace infrared absorption method.
Estimation Methodology	The Mineral Resources were estimated within constraining wireframe solids within geological boundaries based on 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 high-grade domains range from about 3 to 30 metres in thickness, with depths below topographic surface between 80 and 200 m. Grade estimation was completed using ordinary kriging, with an inverse distance weighting to the power of two validation check estimate concurrently completed.
Cut-off Grade	The Mineral Resource is quoted from all classified blocks within the interpreted high- and low-grade mineralisation domain solids, above a lower cut-off grade of 2% TGC.
Resource Classification Criteria	The estimate was classified as Indicated and Inferred based on surface mapping, geophysical information, drill hole sample analytical results, drill hole logging, and measured density values. The Mineral Resource is classified as an Indicated Mineral Resource for those volumes where in the Competent Person's opinion there is adequately detailed and reliable, geological and sampling evidence, supported by geophysical electro-magnetic modelling data, which are sufficient to assume geological, mineralisation and quality continuity.

ASX Listing Rule 5.8.1 requirement	Commentary
	The Mineral Resource is classified as an Inferred Mineral Resource where the model volumes are, in the Competent Person's opinion, considered to have more limited geological and sampling evidence, supported by geophysical electro-magnetic modelling data, which are sufficient to imply but not verify geological, mineralisation and quality continuity. Roughly 20% of the interpreted mineralisation is considered to be extrapolated.
Consideration of Modifying Factors	The JORC Code Clause 49 requires that industrial minerals must be reported "*in terms of the mineral or minerals on which the project is to be based and must include the specification of those minerals*" and that "*It may be necessary, prior to the reporting of a Mineral Resource or Ore Reserve, to take particular account of certain key characteristics or qualities such as likely product specifications, proximity to markets and general product marketability."* Therefore, the likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications, possible product marketability and potentially favourable logistics. It is concluded that the Chilalo deposits are an industrial Mineral Resource in terms of Clause 49.

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Competent Person's Statement

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. Mr. Louw is a full-time employee of CSA Global Pty Ltd (CSA), an independent consulting company and is a Member of the Australian Institute of Geoscientists. Dr. Scogings is an employee of KlipStone Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy, a Member of the Australian Institute of Geoscientists and an RPGeo (Industrial Minerals). Dr. Scogings 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 '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.

About Graphex Mining

Graphex Mining Limited (ASX:GPX) is an Australian resources company listed on the Australian Securities Exchange. Graphex owns the world-class Chilalo Graphite Project, located in south-east Tanzania (see Figure on following page).

Since the initial discovery of Chilalo in 2014, Graphex has adopted a clear and differentiated strategy of understanding end markets and seeking to partner with strategic investors to enable delivery of the Chilalo Project. Underpinned by a high proportion of large flake material with exceptional expansion characteristics, the Company has targeted the expandable graphite market, which among many applications, is ideally suited to the manufacture of high-value graphite foils and flame-retardant materials.

Graphex has strategically targeted these expandable graphite applications based on their attractive growth and value characteristics. The size and growth expectations of the expandable graphite market applications, the premium prices for large flake graphite in general and the suitability of Chilalo graphite for the production of expandable graphite applications has meant that the Company has prioritised supplying the expandable graphite market as the primary focus.

For more information, visit www.graphexmining.com.au.

Chilalo Large Flake Graphite Project, Located in Tanzania

For more information, visit www.graphexmining.com.au.

APPENDIX 1. JORC CODE, 2012 EDITION – TABLE 1
Section 1: Sampling Techniques and Data (criteria in this section apply to all succeeding sections)

Criteria	Commentary
Sampling techniques	Pre-2018 drilling programs • 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 IMX Resources' standard operating and QA/QC procedures 2018 Drilling program • Samples were collected on 1m basis within the same zone (ie within HG, LG and WASTE). When there is a change in zone, samples were collected based on the lithological boundaries of mineralization, with minimum sample length of 0.5m and max length of 1.5m and sent for LECO analyses graphitic carbon and sulphur content. All resource holes cores were submitted for analysis. For the pit geotechnical and TSF sterilization holes, the mineralized zones were selected and submitted for assaying. • CRM's and field duplicate samples were used to monitor analytical accuracy and sampling precision. • Sampling is guided by Graphex Mining's standard operating and QA/QC procedures. • PQ (resource holes) and NQ (Pit geotechnical and TSF sterilization holes) diamond cores were geologically logged and sampled. Core is quarter cored by diamond blade rock saw, numbered and bagged before dispatch to the laboratory for preparation and analysis. • Core is routinely photographed wet and dry.
Drilling techniques	Pre-2018 drilling programs • 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 2018 Drilling program • Diamond holes were drilled in a direction to intersect the mineralisation orthogonally. • Metallurgical drill holes were targeted down dip or vertically to obtain maximum amounts of mineralised material to provide suitable samples for metallurgical testing • Diamond drilling with standard inner tubes PQ3 and NQ are drilled to target depth. • Diamond drilling was completed using a conventional wire-line rig. • Core orientations were measured every drilled run either 3m or 1.5m • Down hole directional survey was taken every 30m to ensure target was reached.

Criteria	Commentary
Drill sample recovery	RC Drilling • 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 drilling • 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	RC Drilling • 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. • RC Chip trays are photographed, wet and dry for future reference. Diamond drilling • Detailed geological logging of all diamond holes captured various qualitative and quantitative parameters including mineralogy, 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 dedicated fully relational geological database (Datashed) hosted by a consultant (rOREdata Pty Ltd) for storage. • Core is regularly photographed wet and dry for future reference. • All holes drilled have been geologically logged in their entireties.
Sub-sampling techniques and sample preparation	RC Drilling • 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 bag. • 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. Diamond drilling • Core is cut with a diamond saw into half core and then one half into quarter core. A quarter of the core, sampled to 1 m or lithological boundaries, is sent to the laboratory for assay. • A quarter core is archived. A half core is reserved for any other required test-work. Such as metallurgical, AMD etc. All drilling • Control samples (blanks, field duplicates and commercial standards) are inserted into the sample stream every twentieth sample (1 standard, 1 blank, 1 site duplicate) or not less than 5% of all collected samples for each control sample. 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 • High valued standards are preferably inserted within the strong mineralization. Similarly,

Criteria	Commentary
	low valued standards are inserted within the weak mineralization. A mineralised zone is a zone greater than 5m with a visual estimate of more than 5% graphite. • Samples were stored on site prior to being transported to the laboratory. • 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.
Quality of assay data and laboratory tests	Pre-2108 drilling programs • 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. 2018 Drilling program • All samples were submitted to ALS laboratory in Johannesburg, South Africa for sample preparation and analytical assay. • 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 using a LECO analyser to determine graphitic carbon and sulphur content (ALS Minerals Codes C-IR18 and S-IR08). • Laboratory duplicates and standards were also used as quality control measures at different sub-sampling stages. • 148 samples were sent for umpire laboratory testing at the SGS Randfontein, South Africa laboratory. Analysis of the results showed an insignificant upward bias (+2.1%) in the primary laboratory mean grade results, few outliers and over 95% passing 10% half absolute relative difference. The results are considered to validate the accuracy and precision 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 very few failures and acceptable levels of precision and accuracy. CSA Global believes 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 Ngwena Tanzania Ltd/GRAPHEX Mining Ltd geological personnel supervised 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. • Six 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 • Assay data is loaded directly into the fully relational Datashed geological database which is

Criteria	Commentary
	hosted 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 not less than 5% of all loaded data. • No adjustments have been made to assay data.
Location of data points	• Drill hole collar locations have been surveyed using a hand held GPS with an accuracy of 5m for easting, northing and elevation coordinates. • Drill hole collars where 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 30m. • 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 the contour data generated from the UAV surveys completed by Atlas Geophysics in 2017 and spot heights and collar surveys data captured using Differential GPS.
Data spacing and distribution	• The Chilalo deposit has been sampled using RC and diamond core drilling over a number of drilling campaigns, with initial drilling completed on a nominal 200 m by 200 m grid. • Subsequent infill drilling programs have sequentially reduced the grid spacing to a nominal 50 m drill spacing on drill section lines nominally 100 m apart along strike. • Six geotechnical drill holes have been completed between 200 and 400 metres apart designed to provide information on the stability of the pit walls. • Metallurgical drilling (2 holes) was aimed at collecting enough mineralised material for metallurgical testwork. One of the metallurgy holes was drilled down dip the main high-grade mineralisation zone and the second one was drilled vertical at about section 472,000 mE.
Orientation of data in relation to geological structure	• All drill holes have been orientated to intersect the graphitic mineralisation as close to perpendicular as possible. • From surface mapping of the outcrops in the area, trenching and already completed modelling, the interpreted mineralisation zones, dip at angles of between 50 and 60 degrees to the south to south-south-west. The drilling was hence planned at a dip of -50/60 degrees oriented 315 to 360 degrees. • The orientation of drilling is not expected to introduce any significant 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 are cut, packed and locked in the offices at the Ntaka Hill camp (in close proximity to site) which has 24 hour security prior to transportation by locked commercial truck carrier. • Prior to the 2018 drilling campaign, samples were trucked to the ALS Mwanza sample preparation facility, which then prepared and shipped the sealed prepared samples to the ALS Brisbane laboratory for analysis. • For the 2018 drilling campaign the samples were transported to Dar-es-Salaam by locked commercial truck carrier due to the ALS Mwanza facility having been shut down. • An export permit is processed while samples are kept at the Dar-es-Salaam offices with 24 hours security prior to being sealed by government officials from the Ministry of Minerals. • The sealed samples were then air freighted to the ALS laboratory in Johannesburg, South Africa by DHL courier.
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 listed in the preceding section also apply to this section)

Criteria	Commentary
Mineral tenement and land tenure status	• The exploration results reported in this announcement are from work carried out on granted prospecting licences PL 6073/2009 which are owned by Ngwena Tanzania Limited, a wholly owned subsidiary of Graphex Mining Limited. • Subsequent Mining Licence approval in February 2017 has enveloped the Chilalo Mineral Resource within ML 569/2017, owned by Ngwena Tanzania Limited, whilst the remainder of original PL 6073/2009 now exists as licence PL 11034/2017 also held now by Ngwena Tanzania Limited. • ML 569/2017 and PL 11034/2017 are currently valid and in good standing.
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 metasedimentary rocks. The mineralisation consists of a series of intercalated graphitic horizons within felsic gneiss (siliceous and 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 Chilalo 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, five RC drill holes completed in 2016 and 11 diamond holes completed in 2018. The DHEM survey data were acquired by Graphex's in house survey crew and equipment (EMIT probe and receiver, and Zonge transmitter). The aim of the DHEM survey campaign was to detect known and off-hole EM responses associated with graphite mineralisation. The EM responses were modelled by Resource Potentials Pty Ltd to determine the location, orientation and size of the conductors associated with graphite mineralisation. The modelled DHEM conductor plate wireframes were provided in 3D DXF format to assist in geological modelling. • FLEM surveys were carried out during the 2015 and 2016 field seasons to collect ground EM data over multiple linear conductive graphitic 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

Criteria	Commentary
	estimate which has been prepared. All relevant data has been described in Section 1 and Section 3 of JORC Table 1.
Further work	• A Definitive Feasibility Study is currently being prepared and is expected to be completed in the December Quarter 2019 • Figures are provided within the main body of this report.

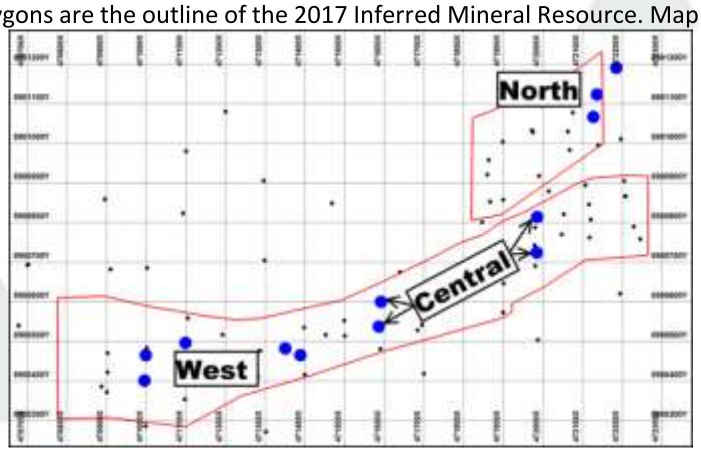
Section 3. Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section)

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. In 2019, a representative of the CP visited the Geological Survey of Tanzania to review sampling procedures. All samples and geological data were deemed fit for use in the Mineral Resource estimate
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 2018. The 2018 drilling was primarily focused on infill to upgrade confidence in the geological and grade continuity of the deposit in the south west extension of the Main deposit and on extension and infill for the north deposit similarly to upgrade confidence in the geological interpretation and continuity, and grade continuity. 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, however structural influences are at noted at roughly 471,280mE with a strike change noted in the main deposit and a linear topographic feature trending north west to south east. The structural influences are not anticipated to significantly alter interpreted mineralisation volumes or grades in the area of intersection with the main zone mineralisation. The mineralisation zones to the north of the eastern side of main deposit appear separated from the main deposit by a structural feature evidenced by a topographic low between the deposits. The north deposit mineralisation has a southward dip and appears to be structurally terminated to the east, south and west. • 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 2.5 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 and used in concert with visual validation using core and chip photographs, as well as sulphur

Criteria	Commentary
	analysis values to generate weathering surfaces for base of complete oxidation and top of fresh rock. • 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 250° at about 471280mE with a dip roughly 40° towards 180°. The average interpreted depth is approximately 200 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 approximately 1.1 km long in the hanging wall 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 160 m in depth in the west, and between 2 m and 15 m in true thickness with a similar strike and dip to the main lens. The low-grade mineralisation (>2% TGC) lenses enclose the high-grade lenses and are in the hanging wall 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 to 15 m in true thickness. • At the Chilalo North deposit the core high grade mineralisation (>5% TGC) interpretation consists of two lenses. The hanging wall lens strikes towards 240°, dipping roughly 45° towards 150°, with a strike length of roughly 500 m from the north east towards the south west. The average interpreted depth is approximately 150 m below surface, ranging between roughly 110 m on the eastern and western ends to a maximum roughly 180 m near the centre. True thickness ranges betw1een roughly 6 m on the eastern and western extremities through a maximum of roughly 30 m near the centre. The footwall lens has a very similar strike and dip geometry to the footwall lens, but extends about 90 m below surface in the east and 120 m below surface in the west and up to about 230 m near the centre. The average true thickness of this lens is roughly 7 m in the east and 6 m in the west. The interpreted low-grade mineralisation (>2% TGC) lenses enclose the high-grade lenses or are between or in the hanging wall 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 centre to 10 m in the east and west for the hanging wall 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 six low grade lenses in the Chilalo North East deposit.

Criteria	Commentary
	• 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 for possible future use by mine engineers and metallurgists in terms of processing and water quality • Interpreted domains are built into a sub-celled block model with a 10 m N by 25 m E by 5 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. Block size, sample numbers per block estimate, ellipsoid axial search ranges and block discretisation have been tailored based on the results of a kriging neighbourhood analysis. 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 reasonable correlation between estimated block grades and drill sample grades. • Roughly 20% of the interpreted mineralisation is considered to be extrapolated. • 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 hanging wall, and it would need to be mined in an open cut to access deeper portions of the higher grade zones,

Criteria	Commentary
	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 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

Criteria	Commentary
	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. • 2019 'Chilalo' Mineral Resource • Representative composite samples from the metallurgy laboratory, crushed to -3.35 mm and homogenised through a rotary splitter, were mounted and polished. Each slide was analysed by petrographic microscopy at Townend Mineralogy Laboratory, using a Leica image analysis program. • Image analysis suggests that there are two in situ flake populations, with a break at approximately 180 to 150 micron. • Several of the Oxide and Transitional samples show extensive splitting of graphite flakes when in contact with clay minerals. • Global composite and variability composites made up from 2018 drill core samples were submitted to ALS Laboratory, Perth, for metallurgical process tests during 2019. • The metallurgical composites were grouped according to weathering domains; i) Oxide and ii) Transitional and Fresh samples which were combined and described as Fresh. • Two global composites were made from across the deposit, described as Global Oxide (three drill holes) and Global Fresh (nine drill holes) from the West, North and Central part of the deposit. • Six variability composites were made from across the deposit, described as North Oxide (one drill holes); North Fresh (three drill holes); Central Oxide (one drill holes); Central Fresh (four drill holes); West Oxide (three drill holes) and West Fresh (five drill holes). • Example map below showing location of Fresh variability composite drill collars. The red polygons are the outline of the 2017 Inferred Mineral Resource. Map grid is 100m x 100m.  • Head grades of the composites ranged between ~8% and 14% TGC.

Criteria	Commentary
	• The variability samples included individual core sample intervals with grades between ~4% and ~15% TGC, which is considered representative of the 'high grade' portion of the deposit. • Sulphur values in the head samples were generally low compared with graphite contents and ranged from 0.06-0.48% total sulphur in the oxide composites to 1.54-2.26% total sulphur in the fresh composites. • Sulphide sulphur content in oxide samples is low, as most sulphur in oxidised material is in the form of minerals such as jarosite. • Flotation test work of the composites which were initially stage ground to P100 1.4mm, and using flash rougher flotation, screening and five stages of cleaning produced final graphite concentrates above target grade TGC>94% and 90-98% graphite recovery. A favourable coarse PSD was maintained, at approximately 60% >180 micron flake size. • Metallurgy testwork is continuing; further results are anticipated later in 2019.
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 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 is classified as an Indicated Mineral Resource for those volumes where in the Competent Person's opinion there is adequately detailed and reliable, geological and sampling evidence, supported by geophysical electro-magnetic modelling data, which are sufficient to assume geological, mineralisation and quality continuity. • The Mineral Resource is classified as an Inferred Mineral Resource where the model volumes are, in the Competent Person's opinion, considered to have more limited geological and sampling evidence, supported by geophysical electro-magnetic modelling data, which are sufficient to imply but not verify geological, mineralisation and quality continuity.

Criteria	Commentary
	• 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.