

# INNOVATIVE SPHERICAL GRAPHITE PROCESS INCREASES YIELDS

Significant steps in unlocking value-add process by producing spherical graphite from previously rejected 'fines' material

Process converts low-values fines into **high-value pre-cursor anode material**, boosting yields **beyond industry standards**

Developments are the outcome of collaborative testwork with leading global technology partners to enhance anode production from natural flake graphite - further optimisation underway

NGX Limited (**NGX** or **the Company**) is pleased to announce that, in collaboration with international technology partners, the Company has successfully produced additional spherical graphite (**SG**) from previously rejected fines material. This innovative process gives NGX the potential to increase production yields of Active Anode Material (**AAM**) and produce higher-value anode products, unlocking significant value.

This technology advancement is part of NGX's ongoing anode development program, focused on pre-qualifying anode material derived from natural flake graphite from the Company's Malingunde Graphite Project in Malawi.

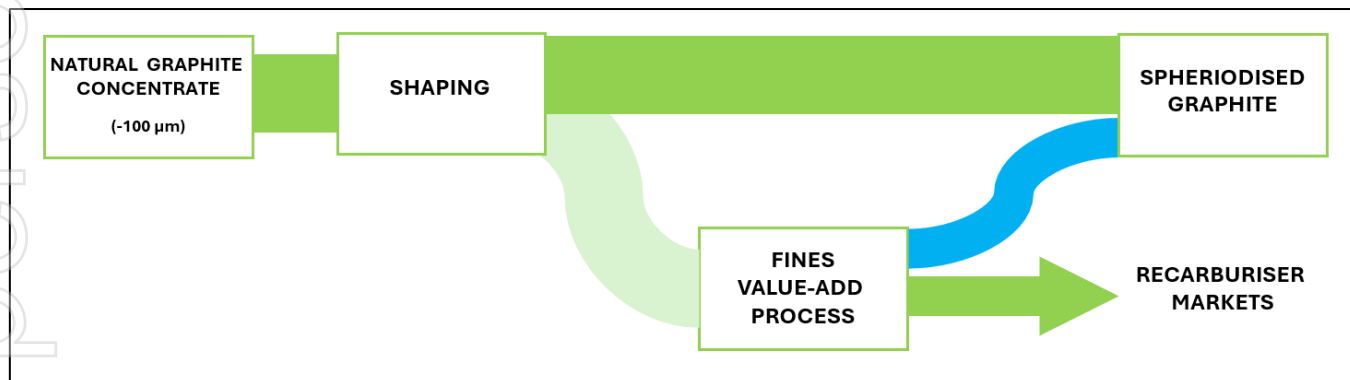


Figure 1: Flowsheet of the initial phases of the downstream process - additional feed from the process in blue

**NGX's Executive Director, Peter Fox, commented:** "NGX is making excellent progress on its downstream strategy for the production of active anode materials. We are excited with our technical team's advancements on this innovative process, which aims to increase both the volume and value of the spherical graphite derived from flake graphite concentrate. This technology could significantly enhance project economics by converting rejected fines - typically a low-value stream from the shaping process - into high-value spherical graphite. We look forward to results from further optimisation work to maximise shaping yields and assess the electrochemical performance of the material."

**For further information, please contact:**

**Peter Fox**  
Executive Director  
Tel: +61 8 9322 6322

**Sam Cordin**  
Executive  
Tel: +61 422 799 087

As part of NGX's ongoing downstream flake graphite program, the Company is working with leading technology partners worldwide to enhance the production of AAM from NGX's high-quality natural graphite for the growing lithium-ion battery market. In collaboration with a technology company, NGX is exploring ways to turn low-value waste fines generated in the 'spheronisation process' into additional high-value SG in order to boost production efficiency and improve sustainability.

The Company's initial testwork has produced SG that already meets the required industry benchmarks for SG, achieving a **D50 of 16.7 microns**, a **0.985 tap density**, and a **BET-specific surface area of 7.3 m<sup>2</sup>/g**, with a yield of 43%. Ongoing optimisation efforts are expected to deliver even more significant improvements.

By introducing a new value-added process, NGX aims to produce finer-sized SG (D50: 10.7 microns) from low value fines material, increasing yield and improving the potential economics and marketability of graphite from the Malingunde Project. Finer SG (D50: 8-12 microns) is highly sought after for high-power and fast-charging battery applications, often commanding a price premium over larger-sized SG material.

Scanning Electron Microscopy (**SEM**) images (Figure 1) of the pre-cursor AAM produced in the process highlight the typical 'potato-shaped' structure of SG, and show the material to be agglomerates of smaller particles. **Conceptually, this is expected to improve lithium diffusion.**

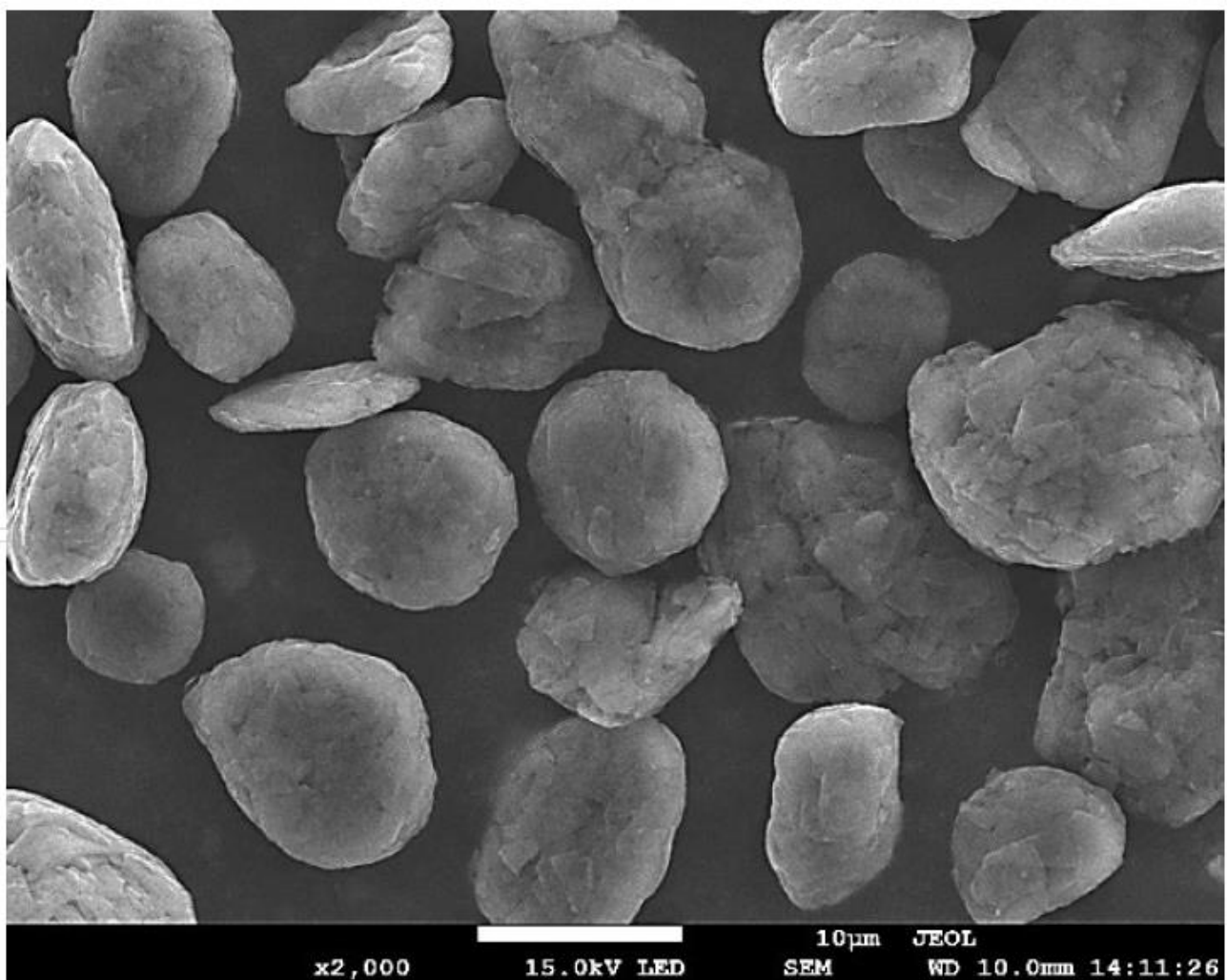
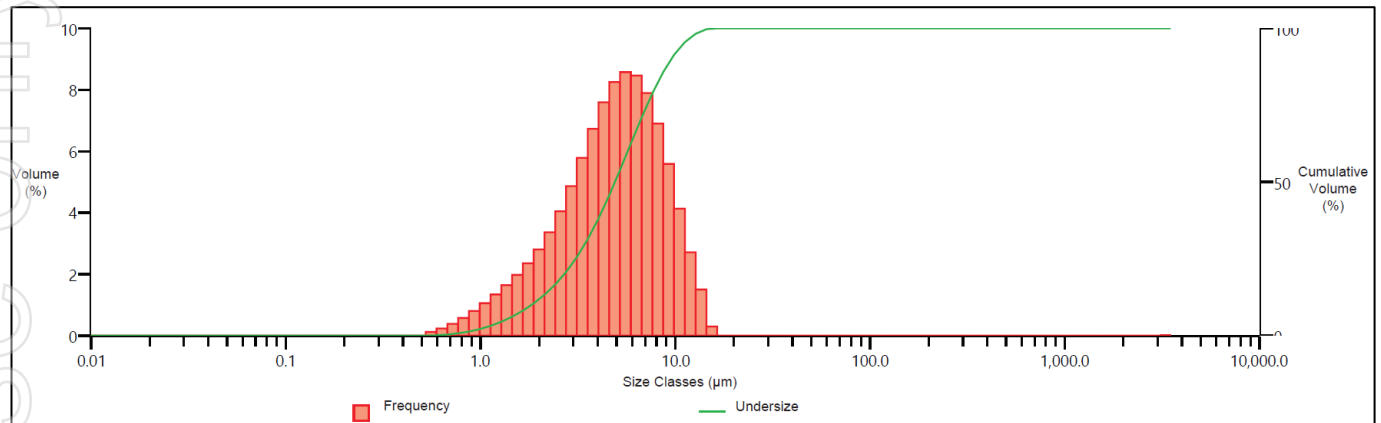


Figure 2: SEM of spherical graphite produced from fines

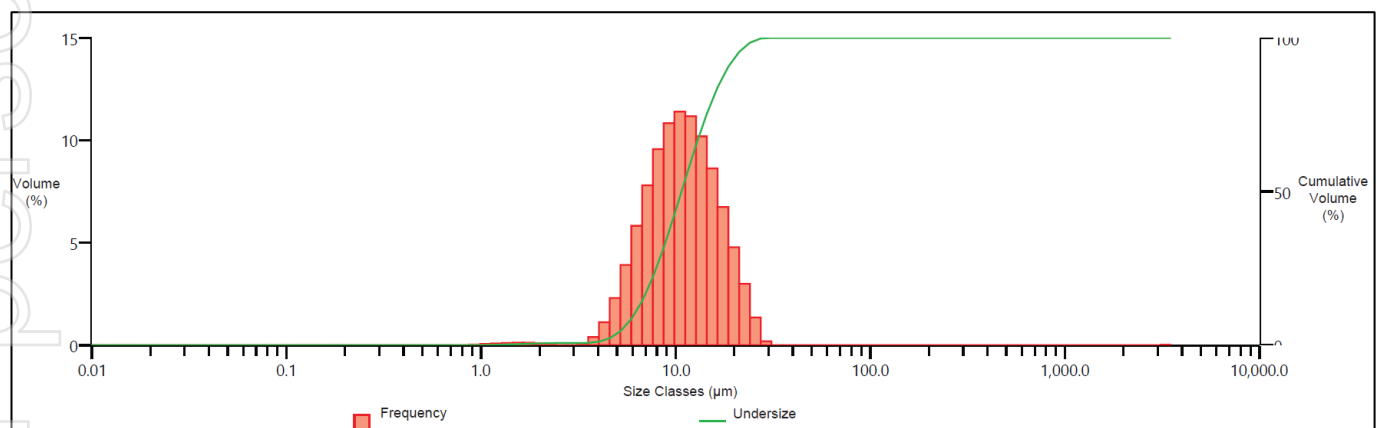
The particle size distribution (**PSD**) of the fines feed to the process is shown in Figure 3, with the majority of material between 1-10 microns, with a D50 sizing of 4.9 microns.



**Figure 3: Particle Size Distribution (PSD) of the fines feed**

The PSD of the SG product (Figure 4) shows a shift to a larger D50 sizing (10.7 microns) and a more normal distribution. The ability to produce this material from what otherwise would be low-value fines, which is typically sold as a low-value recarburiser used in steel making, is a significant value-add for NGX.

Fines processing increased overall yields by 24%, and based on the testwork conducted to date on this process, there is room for further optimisation, targeting an increase in overall yield and enhanced production of high-value smaller diameter spherical graphite. The first batch of finer-sized SG samples has already been sent for purification testing, with the results expected later this quarter.



**Figure 4: Particle Size Distribution (PSD) of the spherical graphite produced from the waste fines material**

(Refer ASX Release "NGX PRODUCES GRAPHITE CONCENTRATE OVER 98% TGC FOR LITHIUM-ION BATTERIES" on 24 October 2024 for further details.)

### Competent Persons' Statements

The information in this report that relates to Metallurgical Downstream Studies is based on information compiled by Dr Surinder Ghag, PhD., B. Eng, MBA, M.Sc., who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM). Dr Ghag is engaged as a consultant by NGX Limited. Dr Ghag has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Ghag consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### Forward Looking Statement

This release may include forward-looking statements, which may be identified by words such as "expects", "anticipates", "believes", "projects", "plans", and similar expressions. These forward-looking statements are based on NGX's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of NGX, which could cause actual results to differ materially from such statements. There can be no assurance that forward-looking statements will prove to be correct. NGX makes no undertaking to subsequently update or revise the forward-looking statements made in this release, to reflect the circumstances or events after the date of that release.

### Disclaimer

In relation to the disclosure of visual information and descriptions, the Company cautions that images displayed are for general illustrative purposes only, and that the visuals displayed, visual methods and estimation of mineral abundance should not be a proxy for laboratory analysis, and that laboratory analysis would be required to determine grades. Visual information also potentially provides no information regarding impurities or deteriorious physical properties relevant to valuations.

Approved for release by the Company's Executive Director, Peter Fox.

## Appendix 1: JORC Code, 2012 Edition – Table 1

### SECTION 1 - SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Hand Auger Drilling Commentary
<b>Sampling Techniques</b>	<i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i>	Samples from the 65cm diameter spiral auger drilling were taken on 1 metre intervals. Each sample was manually quartered with each component of the sample separately bagged.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Sample representivity was achieved through manual quartering.
	<i>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	Weathering and lithological information logged from the 1-metre auger sample was used to define the compositing intervals.
<b>Drilling Techniques</b>	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	A custom-made 65cm diameter spiral auger bit was connected to a standard air-core drilling rig, though no air or compressors were used or required for this style of drilling. The auger bit were cleaned between each metre of sampling to avoid contamination.
<b>Drill Sample Recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Samples are assessed visually for recoveries. Overall, the recovery was very good.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Sovereign's trained geologists supervised the spiral auger drilling. No issues with recovery were identified.
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	No bias related to preferential loss or gain of different materials has occurred.
<b>Logging</b>	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation mining studies and metallurgical studies.</i>	All individual 1-metre auger intervals are geologically logged, recording relevant data to a set template using company codes. A small representative sample was collected for each 1m interval and placed in appropriately labelled chip tray for future reference.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	All logging includes lithological features and estimates of basic mineralogy. Logging is generally qualitative.
	<i>The total length and percentage of the relevant intersection logged</i>	100% of samples were geologically logged.
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Not applicable – not core drilling
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	Samples were manually coned and quartered to obtain representative sub-samples.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	This method is considered appropriate for this style of bulk sample drilling.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Samples were manually coned and quartered to obtain representative sub-samples.



Criteria	JORC Code explanation	Hand Auger Drilling Commentary
<b>Quality of assay data and laboratory tests</b>	<i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i>	Duplicate samples were obtained and stored on site. The auger bit was cleaned between each metre of sampling to avoid contamination.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample size is considered appropriate for the material sampled and for the pilot plant
	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<ul style="list-style-type: none"> <li>Refer to ASX Announcement dated 29 April 2024 titled Major Advances in Production of Active Anode Material for the plant was setup using the flowsheet shown in Figure 2.</li> <li>The metallurgical performance of the circuit was controlled with hourly grab assays and full circuit surveys approximately every 12 hours of operation.</li> <li>The plant was fed at a rate of approximately 200 kg/hr and treated a total of approximately 40 tonnes of raw ore.</li> <li>The pilot plant was operated as a fully integrated circuit treating as received ore to final graphite concentrate filter cake and combined tailings</li> <li>Since the ore yielded a high moisture content, compositing and feeding was done manually at a rate of 10 kg every 3 minutes</li> <li>The plant treated three different composites namely a life of mine (LOM), Year 1 +2, and a North composite</li> <li>Although feed grades and visual appearance of the ore was highly variable, the metallurgical response was consistent</li> <li>The pilot plant campaign confirmed the suitability of the flowsheet that was developed in two laboratory scale programs</li> <li>The pilot plant campaign produced a total concentrate mass of approximately 4.1 tonnes</li> </ul>
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i>	No non-laboratory devices were used for analysis.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicate, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	Internal standards were used by SGS Lakefield. No interrogation has been undertaken on these standards in this case.
<b>Verification of sampling &amp; assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant mineralisation intersections were verified by qualified, alternative company personnel.
	<i>The use of twinned holes.</i>	The 8 spiral auger holes were all twins of existing air-core holes.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	All data was collected initially on paper logging sheets and codified to the Company's templates. This data was hand entered to spreadsheets and validated by Company geologists. This data was then imported to a Microsoft Access Database then validated automatically and manually.
	<i>Discuss any adjustment to assay data.</i>	No assay adjustment has occurred.
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	<p>A Trimble R2 Differential GPS was used to pick up the bulk of the hand auger collars containing significant mineralisation. A smaller number of samples were surveyed using a standard hand held GPS.</p> <p>No downhole surveying of the spiral auger holes is completed. Given the vertical nature and shallow depths of the auger holes drill hole deviation is not considered to significantly affect the downhole location of samples.</p>
	<i>Specification of the grid system used.</i>	WGS84 UTM Zone 36 South.
	<i>Quality and adequacy of topographic control.</i>	DGPS pickups are considered adequate topographic control (metres above mean sea level).
<b>Data spacing &amp; distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	The 8 bulk sample spiral auger holes were drilled in areas designed to represent the life of mine ore feed as identified in the PFS (pre-feasibility study).
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	Not applicable - no Mineral Resource or Ore Reserve estimations are covered by the drilling in this report.

Criteria	JORC Code explanation	Hand Auger Drilling Commentary
	<i>Whether sample compositing has been applied.</i>	Individual 1-metre spiral auger samples were composited into 3 bulk samples representative of life of mine ore feed.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known considering the deposit type</i>	No bias attributable to orientation of sampling has been identified.
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	No bias attributable to orientation of drilling has been identified.
<b>Sample security</b>	<i>The measures taken to ensure sample security</i>	Samples were stored in secure storage from the time of drilling. The samples were sealed as soon as compositing was completed, and again securely stored awaiting shipment.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data</i>	It is considered by the Company that industry best practice methods have been employed at all stages of the exploration.

## SECTION 2 - REPORTING OF EXPLORATION RESULTS

Criteria	Explanation	Commentary																																																	
<b>Mineral tenement &amp; land tenure status</b>	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environment settings.	The Malingunde Project is located on a Retention Licence (RL) under the Mines and Minerals Act (No 8. of 2019), held in the Company's wholly-owned, Malawi-registered subsidiary: RL0033.																																																	
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenements are in good standing and no known impediments to exploration or mining exist.																																																	
<b>Exploration done by other parties</b>	Acknowledgement and appraisal of exploration by other parties.	No other parties were involved in exploration.																																																	
<b>Geology</b>	Deposit type, geological setting and style of mineralisation	The graphite deposit type could be termed a weathered paragneiss. Graphite at Malingunde occurs in a mostly topographically flat area west of Malawi's capital known as the Lilongwe Plain where a deep tropical weathering profile is preserved. A typical profile from top to base is generally soil ("SOIL" 0-1m) ferruginous pedolith ("FERP", 1-4m), mottled zone ("MOTT", 4-7m), pallid saprolite ("PSAP", 7-9m), saprolite ("SAPL", 9-25m), saprock ("SAPR", 25-35m) and fresh rock ("FRESH" >35m).																																																	
<b>Drill hole information</b>	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northings of the drill hole collar; elevation or RL (Reduced Level- elevation above sea level in metres of the drill hole collar); dip and azimuth of the hole; down hole length and interception depth; and hole length	<table><tr><th>Hole ID</th><th>Easting</th><th>Northing</th><th>RL</th><th>Depth</th></tr><tr><td>MGSA001</td><td>571575</td><td>8436200</td><td>1125</td><td>18.3</td></tr><tr><td>MGSA002</td><td>571330</td><td>8436399</td><td>1129</td><td>24</td></tr><tr><td>MGSA003</td><td>572775</td><td>8434999</td><td>1088</td><td>18</td></tr><tr><td>MGSA004</td><td>570751</td><td>8437000</td><td>1132</td><td>21</td></tr><tr><td>MGSA005</td><td>570610</td><td>8437000</td><td>1133</td><td>19</td></tr><tr><td>MGSA006</td><td>570621</td><td>8436900</td><td>1135</td><td>23</td></tr><tr><td>MGSA007</td><td>572575</td><td>8435110</td><td>1096</td><td>7</td></tr><tr><td>MGSA008</td><td>570531</td><td>8437097</td><td>1132</td><td>21</td></tr></table>	Hole ID	Easting	Northing	RL	Depth	MGSA001	571575	8436200	1125	18.3	MGSA002	571330	8436399	1129	24	MGSA003	572775	8434999	1088	18	MGSA004	570751	8437000	1132	21	MGSA005	570610	8437000	1133	19	MGSA006	570621	8436900	1135	23	MGSA007	572575	8435110	1096	7	MGSA008	570531	8437097	1132	21	All holes were vertical. Grid system is WGS 84, Zone 36 South.			
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	If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case	No information has been excluded.																																																	
<b>Data aggregation methods</b>	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high-grades) and cut-off grades are	No grade weighting or lower or upper cuts were used.																																																	

Criteria	Explanation	Commentary
	<i>usually Material and should be stated.</i>	
	<i>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i>	Not applicable to these bulk metallurgical results.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are used in this report.
<b>Relationship between mineralisation widths &amp; intercept lengths</b>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	It is considered that the mineralisation lies in laterally extensive, near surface, moderate to shallowly dipping flat bodies in areas where the entire weathering profile is preserved and not significantly eroded.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	Not applicable to this near-surface style of mineralisation and drilling style.
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'.</i>	Downhole widths approximate true widths, though all mineralisation currently remains open at depth.
<b>Diagrams</b>	<i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of the drill collar locations and appropriate sectional views.</i>	Refer to the Company's Prospectus lodged with ASIC on 12 April 2023 and on the ASX announcement platform on 16 June 2023
<b>Balanced reporting</b>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high-grades and/or widths should be practiced to avoid misleading reporting of exploration results.</i>	Refer to the Company's Prospectus lodged with ASIC on 12 April 2023 and on the ASX announcement platform on 16 June 2023
<b>Other substantive exploration data</b>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to: geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	No other substantive exploration data is available.
<b>Further work</b>	<i>The nature and scale of planned further work (e.g. test for lateral extensions or depth extensions or large-scale step-out drilling).</i>	Further work involves working with numerous potential off-take partners to understand their product specifications required.
	<i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Refer to the Company's Prospectus lodged with ASIC on 12 April 2023 and on the ASX announcement platform on 16 June 2023