

9 August 2022

## ASX Announcement

### FURTHER HIGH-GRADE MINERAL RESOURCES ADD SIGNIFICANT POTENTIAL TO RAZAFY NORTHWEST (NW)

- The recent Exploration program at Razafy NW has delivered further JORC (2012) reportable **Indicated and Inferred Mineral Resources for Razafy Northwest of 5.3Mt at 8.5%TGC**
- **Total Mineral Resources now stand at 40Mt @ 6.5% TGC**
- Evidence of **higher-grade material of approximately 9-10% TGC** within the Razafy NW Mineral Resource will be a key focus for early mine feed into the current **Maniry DFS due to be completed in October 2022**
- **Near surface mineralisation remains open along strike and down dip** with the potential to add to the Company's overall inventory of defined high-grade graphite mineralisation
- The additional Mineral Resources will also **add to the overall mine life of the Maniry Graphite Project**

BlackEarth Minerals NL (ASX: BEM) (the **Company** or **BlackEarth**) is pleased to announce it has materially increased its total graphite inventory, by both tonnes and grade at its 100% owned Maniry Graphite Project in Southern Madagascar with the completion of an upgraded JORC reportable Mineral Resource estimation for the Razafy Northwest (NW) Graphite Deposit.

The Razafy NW Indicated and Inferred Mineral Resource, comprising of 5.3Mt @ 8.5% Total Graphitic Carbon (TGC) at a 3% TGC cut-off grade is summarised below in Table A. The majority of the Mineral Resource has been classified with a high degree of confidence at an 'Indicated' classification, with the remainder classified as 'Inferred'.

Area	Classification	Tonnes	Total Graphitic Carbon (%TGC)	Contained Graphite (tonnes)
Razafy NW*	Indicated	3,100,000	8.6%	266,000
	Inferred	2,200,000	8.5%	186,000
	<b>TOTAL</b>	<b>5,300,000</b>	<b>8.5%</b>	<b>452,000</b>

**Table A - Razafy NW Mineral Resource Estimates for Maniry Project**

\* Note: Mineral Resources are reported in accordance with the JORC Code. The Mineral Resource was estimated within constraining wireframe solids defined above a nominal 3% TGC cut-off. The Mineral Resource is reported in metric tonnes for all blocks above the lower cut-off grade of 3% TGC within these wireframe solids. Differences may occur due to rounding.

This resource estimate is the culmination of the Company's recent diamond drilling exploration program to identify further shallow high-grade zones at Razafy NW. The successful program was completed earlier this year and will form an integral component to the Company's current DFS activities, which have been progressing in parallel with the resource estimation process.

**Managing Director, Tom Revy commented:**

*"We have again added both grade and tonnes to our Maniry graphite inventory. The current plan within the DFS is to run the first stage (years 1-3) of the Project using high grade feed material sourced from Razafy NW. The more we explore in the area, the more we are excited about the real potential of the area and the value enhancement it can ultimately bring to our Maniry Graphite Project. The current resources at the project are within an exploration target of 260-280 million tonnes of TGC (1) . We will continue to invest in exploration in the future to continually grow our resource base and demonstrate the true potential of this project."*

*Since listing the company in January 2018, we have developed a resource base of over 40 million tonnes from zero, and will continue to build on this existing resource."*

The Project updated Company Mineral Resource Inventory is reported as follows -

Area	Classification	Tonnes (Mt)	Total Graphitic Carbon (%TGC)	Contained Graphite (tonnes)
Razafy*	Indicated	13.6Mt	6.5%	890,000
	Inferred	12.1Mt	5.9%	720,000
Razafy NW*	Indicated	3.1Mt	8.6%	266,000
	Inferred	2.2Mt	8.5%	186,000
Haja**	Indicated	-	-	-
	Inferred	9.0Mt	5.8%	522,000
TOTAL	Indicated	16.7Mt	6.9%	1,156,000
	Inferred	23.3Mt	6.1%	1,428,000

**Table B - Maniry Project Minerals Resources**

\*3% TGC cut-off grade

\*\*5% TGC cut-off grade

*Reported at the cut off grades above; figures in the table above have been rounded, reported to the appropriate significant figures with graphite tonnages rounded to the nearest thousand, in accordance with the 2012 JORC Code*

**Note (1) - Cautionary Statement: The Exploration Targets** reported herein are not JORC compliant Mineral Resources. The potential quantity and grade of the Exploration Targets are conceptual in nature, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of a Mineral Resource. See ASX announcement date 14 August 2018

Table C Razafy NW Grade Tonnage Table			
TGC % Cut	Tonnes	TGC %	Density (t/m <sup>3</sup> )
15	120,000	16.6	2.33
14	190,000	15.9	2.35
13	290,000	15.0	2.37
12	470,000	14.0	2.38

11	740,000	13.1	2.39
10	1,140,000	12.2	2.39
9	1,750,000	11.2	2.38
8	2,890,000	10.2	2.39
7	3,920,000	9.5	2.39
6	4,640,000	9.0	2.39
5	5,080,000	8.7	2.39
4	5,280,000	8.6	2.39
3	5,290,000	8.5	2.39
0	5,290,000	8.5	2.39

## Resource Summary

BlackEarth commissioned Snowden Optiro to complete a geological interpretation, three-dimensional (3D) modelling and a Mineral Resource estimate (MRE) for the Razafy Northwest graphite deposit, located in southern Madagascar. BlackEarth previously reported a Maiden MRE for Razafy NW in 2021 at a nominal cut-off grade of 6% TGC. The current MRE, which is reported at a nominal 3% TGC cut-off grade, includes infill drilling completed in 2022 and has been completed in accordance with the guidelines of the JORC Code (2012 edition) and is therefore suitable for public reporting as shown in Table A (above)

The following summary is based on the requirements of ASX Listing Rule 5.8.1 and presents a fair and balanced representation of the information contained within the full MRE report

- The Razafy North West Graphite Deposit is part of the Maniry Graphite Project, which is in southern Madagascar approximately 180 km southeast of Toliara, the regional capital of the Toliara Region. The Razafy North West Mineral Resource is within the permit PE25605, roughly 1 km NNW of the Razafy Main deposit at the Maniry Graphite Project.
- The Razafy NW graphite deposit is situated within metasediments known as the Graphite Sequence, just southwest of the Saririaky anorthosite massif. The Graphite Sequence comprises graphite schist, marble, quartzite, amphibolites and leucogneiss and was metamorphosed at upper amphibolite to granulite facies conditions of around 700-900°C. The CP is of the opinion that the high metamorphic grade of the Razafy NW deposit is potentially favourable for the development of coarse graphite flakes.
- Disseminated graphite flakes occur in four individual domains (zones) each consisting of several graphitic layers between about 5 and 40 m apparent thickness hosted within granulitic gneisses. The graphitic layers are separated by waste rock that may contain background values of up to about 3% TGC. The graphite mineralisation is generally within quartzo-feldspathic rocks and from preliminary thin section studies contain garnets and trace amounts of sillimanite. The individual mineralised zones extend about 250-350 m along strike to the NNW and dip at approximately ~60-75° to the ENE and have been traced by trenching and drilling along a total of approximately 1,100 m strike length.
- Graphite-bearing and waste rocks are weathered to varying depths across the Razafy NW deposit and have been described as weathered (oxidised and transitional) or fresh. The weathered domain is characterised by the oxidation of sulphide minerals e.g., pyrite, and by the formation of secondary hydrous clay minerals such as goethite and kaolinite.
- The CP notes that kaolinisation of alumino-silicate minerals as seen at Razafy NW typically causes graphite to be split into thin flakes when in contact with kaolin. Bimodal graphite populations are therefore noted i.e., large clean flakes vs small flakes, or split flakes.
- Six down-hole drill core composites were submitted to ALS Perth for metallurgical tests to evaluate the quality and quantity of graphite extracted by flotation methods. Each composite represented approximately 4 m length down hole and weighed around 5 kg. The flotation samples were distributed evenly across the NW deposit with at least one sample from each mineralised domain. A broad range of feed grades was selected, from <3% TGC to 20% TGC and between <1% S to nearly 7%.

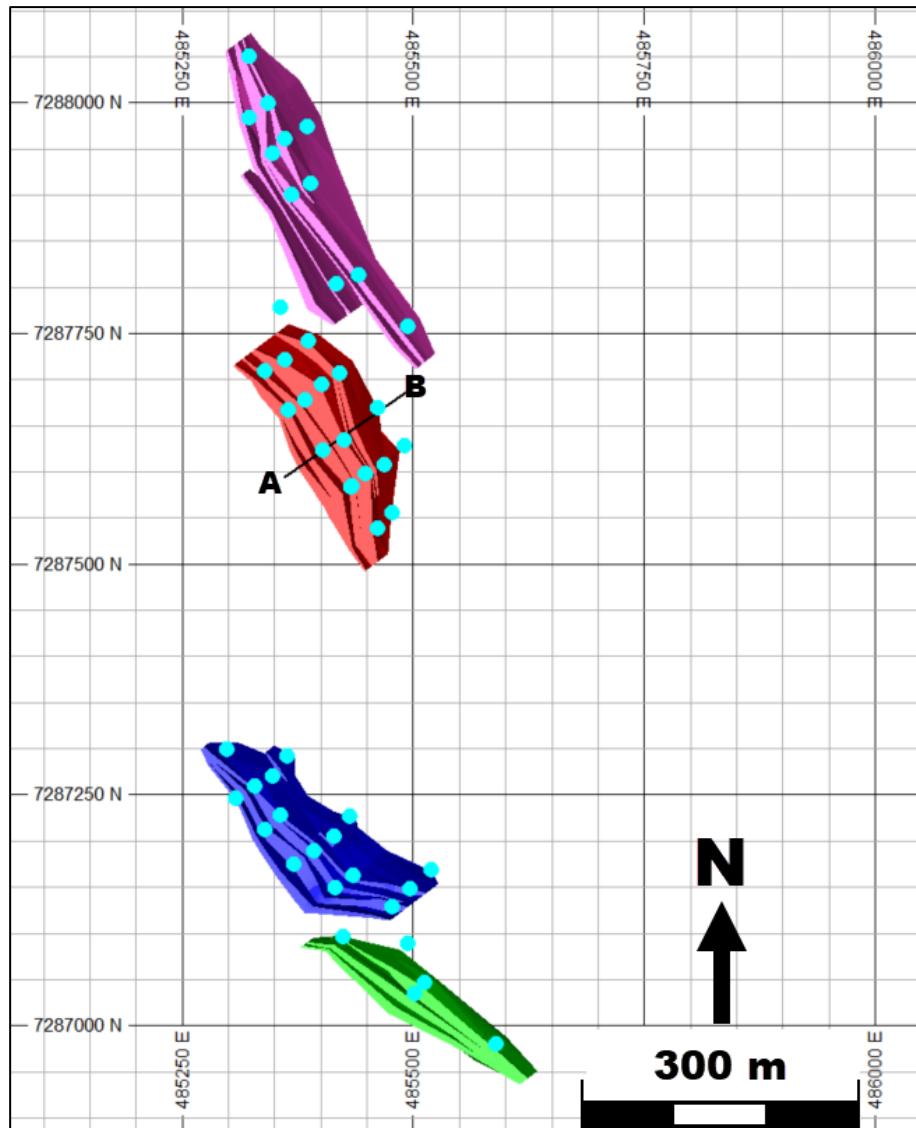
- Five of the composite samples were from the fresh domain and one from the weathered (oxidised / transitional) domain. The metallurgical process flowsheet included stage crushing and grinding, followed by up to six attritioning and flotation stages. Four of the six samples returned approximately 50% of flakes greater than 150 micron diameter.
- Coarse flake product (>150 µm) ranged in purity from 78.2% to 98.3% TGC, while the fines product (< 150 µm) ranged from 85.8% to 98.4% TGC.
- The CP is of the opinion that the limited metallurgical testing to date indicates that graphite concentrates of marketable size and purity may be produced from the Razafy NW deposit. This supports the classification of the Mineral Resource as an industrial mineral according to Clause 49 of the JORC Code. Snowden Optiro notes however that kaolinised graphite mineralisation, with associated split graphite flakes, may need additional cleaning and attritioning stages than non-kaolinised material and that further metallurgical testing is required to improve confidence in variability across the deposit.
- The Razafy NW deposits have been sampled using diamond core drilling over two drilling campaigns, with drilling initially completed on a nominal 100 m by 30 m grid. Infill and extensional drilling have been completed to a grid of roughly 50 m by 30 m over all, but the southernmost pod. A total of 50 diamond holes for 2,643.3 m have been drilled with 2,469.6 m assayed by means of a standard induction furnace infrared absorption method for graphite content. A total of 1,269.4 m of diamond core from 49 holes lie within the interpreted mineralisation zones.
- The Mineral Resources were estimated within constraining wireframe solids interpreted using a combination of logged geological boundaries and assay data using a nominal 3% TGC lower grade cut-off. A weathering surface delineating the interpreted top of fresh rock (TOFR) was interpreted based on drill hole geological logging, core photography and chemical analysis of sulphur values. The Mineral Resource is quoted from all classified blocks above 3% TGC within the interpreted wireframe solids.
- The CP is of the opinion that reporting of the Mineral Resources should be above the 3% TGC interpretation cut-off grade within the interpreted mineralisation lenses. In the CPs opinion this material represents the visually recognisable graphite mineralised units that have the potential for eventual economic exploitation and that have therefore been classified as Mineral Resources. The use of a higher reporting cut-off grade for the Mineral Resources would also artificially restrict the ongoing mining engineering studies to determine optimal mining strategies for the deposit.
- In situ bulk density is assigned based on results from 616 caliper measurements and weight of dry whole core samples collected by BlackEarth geologists. Of these samples 324 are from within the mineralisation zones, with 100 from the weathered zone and 224 from fresh rock zone. The measurement results have been validated as reasonable by means of immersion method testing of 26 samples at Intertek (Perth) laboratory and 26 half core caliper measurements by Snowden Optiro. The dry bulk density applied to the material within the model is captured in Table D:

**Table D In-situ dry bulk density assigned to block model materials**

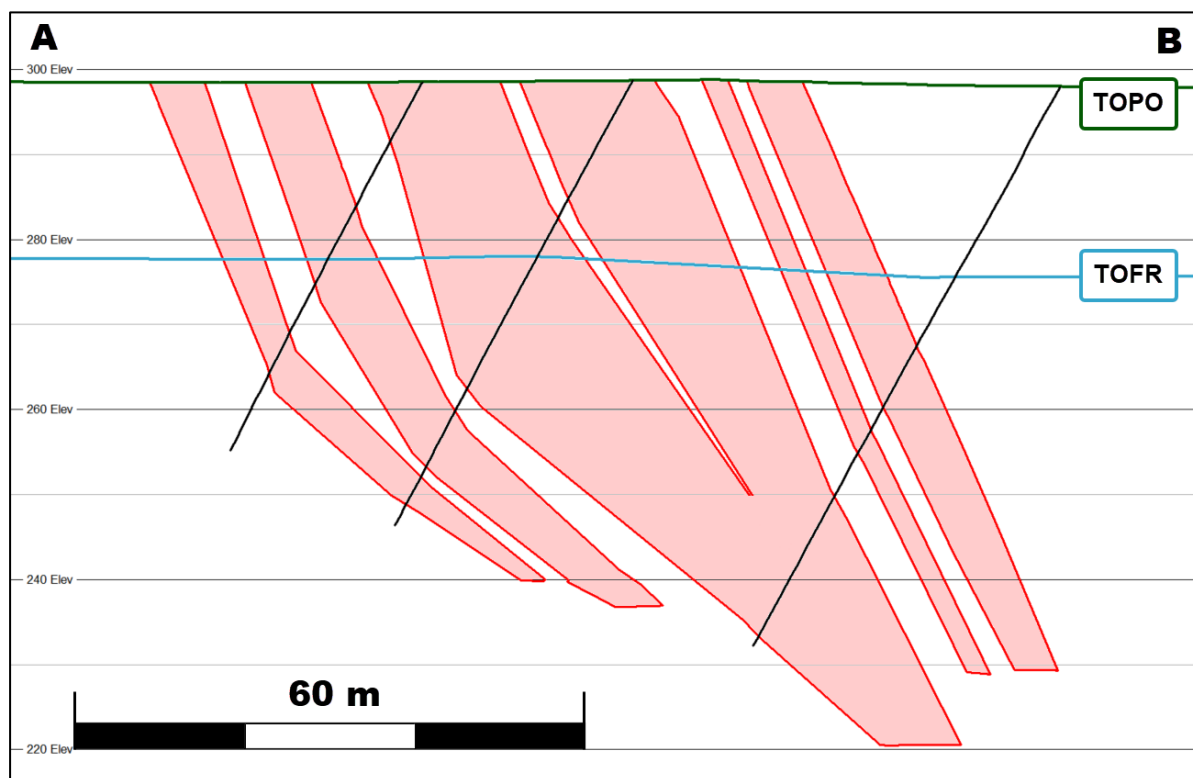
	Mineralisation		Waste	
	Weathered	Fresh	Weathered	Fresh
Number	100	224	81	211
Minimum	1.63	1.67	1.83	1.81
Maximum	2.97	3.18	3.27	3.28
Mean	2.21	2.47	2.49	2.66

- Approximately 20% of the interpreted mineralisation is considered to be extrapolated.
- Grade estimation was completed using ordinary kriging, with an inverse distance weighting to the power of two validation check estimate concurrently completed.




- The Mineral Resource was classified as Inferred and Indicated, accounting for the level of geological understanding of the deposit, quality of samples, density data, drillhole spacing and sampling, analytical and metallurgical processes. Material classified as Inferred was considered sufficiently informed by geological and sampling data to imply geological, grade and quality continuity between data points. Material classified as Indicated was considered sufficiently informed by geological and sampling data to assume geological, grade and quality continuity between data points.



**Figure 1 Razafy NW Plan view with drill collar and section location**



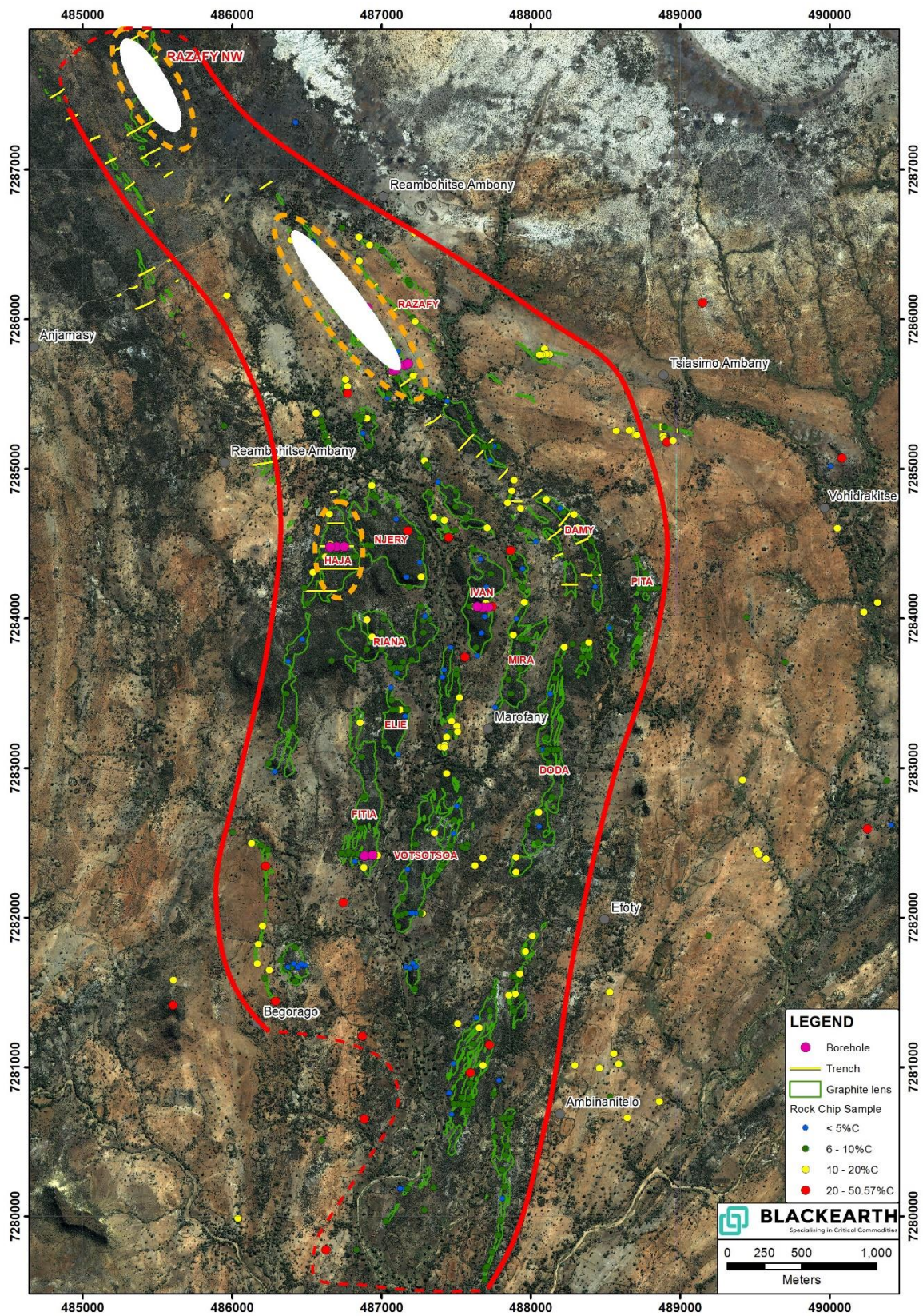
**Figure 2** Representative schematic section through interpreted mineralisation showing top of fresh rock surface

<b>Map 1 Maniry Graphite Project Area</b>		
<b>Total Indicated Mineral Resources</b>	<b>16,700,000 at 6.9% TGC*</b>	
<b>Total Inferred Mineral Resources</b>	<b>23,300,000 at 6.1% TGC*</b>	
<b>Exploration Target</b>	<b>260-380Mt at 6-8% TGC**</b>	

\*Refer Table B for more details

\*\*Refer Cautionary Note below







**Cautionary Statement: The Exploration Targets** reported herein are not JORC compliant Mineral Resources. The potential quantity and grade of the Exploration Targets are conceptual in nature, there has been insufficient exploration to determine a Mineral Resource and there is no certainty that further exploration work will result in the determination of a Mineral Resource. See ASX announcement date 14 August 2018

## Bibliography

JORC (2012). Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code). The Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia. Available online.

BEM (2021). Razafy Northwest provides a significant 32% increase in total Indicated Graphite inventory at Maniry Project. ASX announcement, 17 November 2021.

BEM (2022). Further outstanding drill results achieved at Razafy Northwest (NW). ASX announcement, 10 May 2022.

BEM (2022). Further high-grade results add significant potential to Razafy Northwest (NW). ASX announcement, 4 July 2022.

This release has been authorised by the Company's Disclosure Committee

## CONTACTS

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## Competent Persons Statement

*The information in this Report that relates to in situ Mineral Resources for Razafy NW was prepared, and fairly reflects information compiled, by Mr Grant Louw and Dr Andrew Scogings, each of whom have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Mr Louw is an employee of Snowden Optiro and is a Member of both the Australian Institute of Geoscientists and the Geological Society of South Africa. Dr Scogings is an employee of Snowden Optiro, a Member of the Australian Institute of Geoscientists and the Geological Society of South Africa and is a Registered Professional Geoscientist (RP Geo. Industrial Minerals). Mr Louw and Dr Scogings consent to the inclusion of information in the Mineral Resource report that is attributable to each of them, and to the inclusion of the information in the release in the form and context in which they appear.*



## **Forward Looking Statements**

Some of the statements appearing in this announcement may be in the nature of forward-looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which BlackEarth operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward-looking statement.

No forward-looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside the Company's control.

The Company does not undertake any obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions or conclusions contained in this announcement. To the maximum extent permitted by law, none of the Company's Directors, employees, advisors or agents, nor any other person, accepts any liability for any loss arising from the use of the information contained in this announcement. You are cautioned not to place undue reliance on any forward-looking statement. The forward-looking statements in this announcement reflect views held only as at the date of this announcement.

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## JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>the drill hole database only consists of diamond drill holes</li> <li>sampling consists of 2m composite samples of ¼ core with breaks at lithological discontinuities - typically 3-5kg</li> <li>samples are cut using a diamond blade core saw</li> <li>duplicate samples are collected every 20th sample for QAQC purposes</li> <li>standards (CRMs) are inserted every 20th sample for QAQC purposes</li> <li>blanks are inserted every 50th sample for QAQC purposes</li> <li>sampling is considered comprehensive and representative</li> <li>¼ cores are sent for analysis, the remaining core material is retained and stored in BEM's secure core shed</li> </ul> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>trenches are dug perpendicular to the strike of mineralised units with a backhoe or by hand using picks and shovel</li> <li>geologists log and systematically sample the trenches using a rock hammer at 2m intervals</li> <li>CRMs are inserted ~every 20th sample for QAQC purposes</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>conventional wireline diamond drilling was used to obtain all drillcore and drilling was undertaken with a Boart Longyear LF70 trailer mounter drilling rig</li> <li>nominal core diameter was 63.5mm (HQ) in 0.5-1.5m runs</li> <li>drill holes were inclined at -60°, direction 233°, and not all core is not orientated</li> <li>a total of 28 diamond holes (MNDD108 to MNDD135) were completed during the 2002 infill drilling program and 1669m were drilled</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	<ul style="list-style-type: none"> <li>core recovery is routinely recorded every metre by geologists</li> <li>no bias or relationship has been observed between recovery and grade</li> <li>core recoveries of &gt;93% on average were achieved for sampled core within the graphite mineralised zones</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>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.</li> </ul>	
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>all drill holes are logged by qualified and experienced geologists</li> <li>logging includes descriptions of mineralisation, structural and lithological aspects of the core and is recorded using an industry standard code system</li> <li>all logging included lithological features, estimates of graphite percentages and flake sizes, which is quantitative and is recorded on the logging sheets</li> <li>cores are systematically photographed dry and wet</li> <li>the data collected offers sufficient detail for the purpose of interpretation and further studies</li> <li>density measurements are made using the Caliper method by qualified and experienced geologists on full core for graphite mineralised and waste material, and further follow-up density measurements for QAQC purposes are completed at Intertek Laboratories by immersion methods and Snowden Optiro on half core by Caliper method in Australia.</li> </ul> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>all trenches are logged by qualified and experienced geologists</li> <li>logging includes descriptions of mineralisation, structural and lithological aspects of the encountered rocks and is recorded using an industry standard code system</li> <li>the data collected offers sufficient detail for the purpose of interpretation and further studies</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>¼ cores are cut using a diamond core saw and collected for assay</li> <li>2 metre composite sampling is deemed to be comprehensive and representative for the style/type of mineralisation under investigation</li> <li>sample preparation from ¼ core to pulp is undertaken at BEM's sample preparation facility in Antananarivo (former Intertek-Genalysis facility)</li> <li>samples are oven dried, crushed to -2mm, split twice through a 50/50 riffle splitter to obtain a representative sub-sample, weighing approx.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>100g and then pulverized that 85% pass -75µm pulp samples are sent to accredited laboratories in Australia (Intertek) for Graphitic Carbon (TGC), Total Carbon (TC) and Sulphur (S) analysis</p> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>the base of the trench is chipped to obtain a representative sample over 2m intervals. Although the sampling technique is not ideal, the technique is deemed satisfactory for this exploratory phase of work</li> <li>QAQC measures are deemed satisfactory for this type of sampling and exploratory phase of work</li> <li>the sample size (3kg) is deemed satisfactory to the grain size of the material being sampled</li> <li>sample preparation from 3Kg chip sample to pulp is undertaken at BEM's sample preparation facility in Antananarivo. Samples are pulverised to 75 microns, and approximately 100g sent to external laboratory for graphite and sulphur analysis</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<p><b>Drilling &amp; Trenching</b></p> <ul style="list-style-type: none"> <li>analysis of TGC, TC and S content has been undertaken by Intertek in Australia. At the time of commencement of Resource estimation work no umpire pulp samples for the 2022 program had been completed.</li> <li>for TC and S, analysis is performed in an Eltra Infrared Carbon – Sulphur Analyser. The pulped sample is weighed out and placed in a ceramic dish. An accelerant is added to act as a flux and improve fluidity and oxidation of the carbon and sulphur. Heating is accomplished in a high frequency induction furnace as this provides both speed and accuracy. Any sulphur or carbon is converted to SO<sub>2</sub> or CO<sub>2</sub> respectively. These gases absorb infra-red radiation at specific wavelengths which is proportional to the concentration of the C or S in the sample. Any water in the sample is removed by passing the gases produced through magnesium perchlorate as water interferes with the analysis</li> <li>for TGC, a portion of the test sample is dissolved in dilute hydrochloric acid to liberate carbonate carbon. The solution is filtered using a filter paper and the collected residue is then dried at 425°C in a muffle oven to drive off organic carbon. The dried sample is then combusted in a Carbon/ Sulphur analyser to yield the TGC. The graphitic carbon content is determined by eliminating other carbon</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>forms from the total carbon content. The addition of acid to the sample liberates carbon dioxide thus removing carbonate carbon. Soluble organic carbon will also be removed. Insoluble organic carbon is removed by heating the sample at 425°C in an oxidising environment. The “dried” carbon-bearing sample that is analysed in the resistance furnace is considered to contain only graphitic carbon.</p> <ul style="list-style-type: none"> <li>standards and duplicates (duplicates only for core, not for trench samples) are inserted every 20th sample, and blanks are inserted every 50th sample by the BEM technical team in addition to the internal QAQC from the laboratory</li> <li>standards, blanks, duplicates and umpire samples for drill sample analyses reported in this announcement have performed satisfactorily.</li> <li>all GEOSTATS standards, blanks, and duplicates for drill sample analyses reported in this announcement have performed satisfactorily. Six OREAS standards failed QAQC checks and it appears the material settles in the containers and is thus not homogenised enough before its inserted into batches. Note that these OREAS standards are blended graphite with granodiorite</li> <li>OREAS standards OREAS722 / OREAS723 / OREAS724 and GEOSTATS standards GGC11 / GGC14 were included at a density of one in 20 samples, blanks were included at a density of one in 50 samples</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>significant intersections have been verified by alternative company personnel</li> <li>no twin holes have been completed, but are planned for future drill programs</li> <li>all data is recorded digitally using a standard logging system and files are stored in Excel files, with the objective being to import all data into an industry standard relational and auditable database before updating the Mineral Resource estimate based on the 2022 infill drilling.</li> <li>No data adjustment has been made.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>all collars were located using a DGPS (accurate to 1cm) projection and grid systems used: UTM (WGS84 Z38S).</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>downhole surveys by using a Reflex EZAQ instrument, were undertaken on some holes to verify deviation from starting azimuth and dip.</li> </ul> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>all XYZ surveying is collected using a handheld Garmin GPS accurate to <math>\pm 4\text{m}</math></li> <li>Projection and Grid system used: UTM (WGS84) Z38S</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li><i>Data spacing for reporting of Exploration Results.</i></li> <li><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li><i>Whether sample compositing has been applied.</i></li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>drill hole spacing was originally approximately 100m along strike by 30m across strike (2021)</li> <li>infill drilling during 2022 was at approximately 50m along strike and 20 - 30m across strike</li> <li>the drill hole spacing was sufficiently close to allow the graphitic mineralisation to be traced from section to section and down dip</li> <li>samples were composited to 2m length within the logged mineralisation zones, with all 2022 holes sampled in their entirety.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>the drilling grid matches the strike of the orebody</li> <li>the orientation of the drilling is not expected to introduce sampling bias as drill holes intersected the mineralisation at a sufficiently high angle to the dip of the graphite mineralisation. The 3D modelling process accounts for mineralisation envelopes when interpreted in three-dimensions.</li> </ul> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>the trenches are oriented perpendicular to the perceived orientation of the outcropping mineralisation, but since sampling is two-dimensional and not perpendicular to the dip of mineralisation, reported intercepts will be wider than the true width of the mineralised unit</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>full cores are kept in core trays systematically numbered and photographed, and cut and sampled and stored on site</li> <li>pulps are prepared and stored at the BEM's sample preparation facility in Antananarivo</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>pulps are couriered with DHL to Intertek laboratories in Australia</li> <li>the remaining core and leftover pulps are kept in a secure facility adjacent to the BEM's office in Antananarivo</li> </ul> <p><b>Trenching</b></p> <ul style="list-style-type: none"> <li>samples are packaged and stored in secure storage from time of gathering to sample preparation</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>The procedures relating to diamond drilling more specifically logging, sampling (including density, sample collection, quality assurance/quality control, sample preparation and sample dispatch) and data management procedures have been reviewed by external auditors</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>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 environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Work was undertaken upon Research Permit PR25605</li> <li>The tenements are located within the inland of Madagascar in the southern region, approximately centred on the township of Ampanihy.</li> <li>Tenements are held 100% by BlackEarth Minerals SARL, ultimately a wholly owned subsidiary of BlackEarth Minerals NL.</li> <li>No overriding royalties are in place</li> <li>There is no native title agreement required</li> <li>Semi-arid, thinly vegetated, relatively flat to low lying hills with sub-cropping rock.</li> <li>Tenements are currently secure and in good standing.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Regional mapping by BRGM.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The project overlies a prominent 20km wide zone consisting of a folded assemblage of graphite and quartz-feldspar schists (&lt;60% graphite), quartzite and marble units, with lesser intercalated amphibolite and leucogneiss. This zone, termed the Ampanihy Belt is a core component of the Neoproterozoic Graphite System. The belt is</li> </ul>

Criteria	JORC Code explanation	Commentary
		interpreted as a ductile shear zone accreted from rocks of volcanic and sedimentary origins.
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> <li>All relevant data has been reported.</li> </ul>
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>Not relevant when reporting Mineral Resources.</li> <li>No metal equivalent grades have been used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>Not relevant when reporting Mineral Resources</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to figures within the main body of this report</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades</li> </ul>	<ul style="list-style-type: none"> <li>Not relevant when reporting Mineral Resources</li> </ul>





Criteria	JORC Code explanation	Commentary
	<i>and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to BEM Prospectus and previous announcements.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Additional drilling may be undertaken to test strike and dip extensions.</li> <li>additional metallurgical test work to confirm metallurgical performance</li> </ul>

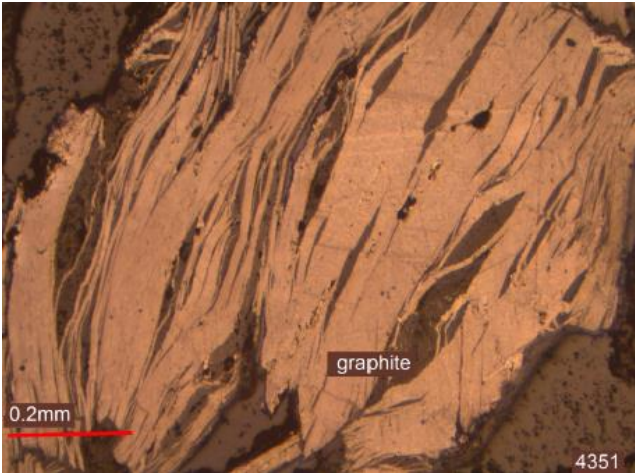
### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

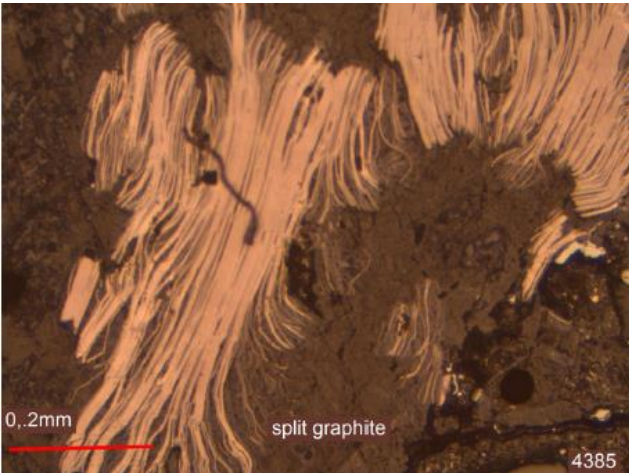
Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>Data used in the Mineral Resource estimate is sourced from a fully relational geological database export. Relevant tables from the data base are exported to MS Excel format and converted to csv format for import into Datamine Studio software.</li> <li>Validation of the data import include checks for overlapping intervals, missing survey data, missing assay data, missing lithological data, and missing collars.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>No site visit has been undertaken by the Competent Person however independent consultants who were responsible for estimation and reporting of the previous MRE undertook a site visit in March / April of 2018 and found that “All drilling, sampling and sample preparation procedures were considered of industry standard, well supervised and carried out”.</li> <li>The project is being managed in-country for BlackEarth Minerals by an independent geological consultant Mr Jannie Leeuwner who has completed several site visits since Nov 2021 and ensured that all procedures are being carried out to a good industry standard.</li> <li>Therefore, it was considered unnecessary for the CP to conduct a site visit at this stage as the CP is confident that the project works are being conducted in an appropriate professional manner.</li> </ul>

Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The geology and mineral distribution of the system appears to be reasonably consistent through the four interpreted mineralisation zones, with the northern most zone having an on average higher grade than the others. Infill drilling data has shown the extents, orientation and mineralisation tenor of the mineralised geological units to be broadly similar to the previous interpretation albeit generally steeper dipping than previously recognised.</li> <li>• Drill hole intercept logging, assay results, trenching and surface geological mapping 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 surface mapping information.</li> <li>• The extents of the modelled zones are constrained by the information obtained from the drill logging and surface mapping data, with a nominal 3% TGC lower cut-off grade applied to the interpreted mineralisation lens extents which corresponds well to the geological logging of graphite mineralised units. Alternative interpretations are unlikely to have a significant influence on the global Mineral Resource estimate, with the deposit being open at depth.</li> <li>• Surface mapping and trenching, with logged geological units and chemical analysis data have formed the basis for interpretation of mineralisation zones. A weathered zone boundary surface has been interpreted separating fresh rock material from weathered material based on the geological logs and cross referenced against the core photography as well as S results from chemical analysis.</li> <li>• Continuity of geology and grade can be identified and traced between drill holes by visual, geochemical and mineralogical characteristics. Additional data is required to more accurately model the effect of any potential geological 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.</li> <li>• The Razafy NW graphite deposit is situated within metasediments known as the Graphite Sequence, just southwest of the Saririaky anorthosite massif. The Graphite Sequence comprises graphite schist, marble, quartzite, amphibolites and leucogneiss and was metamorphosed at upper amphibolite to granulite facies conditions of around 700-900°C. The CP is of the opinion that the high</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>metamorphic grade of the Razafy NW deposit is potentially favourable for the development of coarse graphite flakes.</p> <ul style="list-style-type: none"> <li>The graphite mineralisation is generally within quartzo-feldspathic and from preliminary thin section studies contain garnets and trace amounts of sillimanite.</li> <li>Graphite-bearing and waste rocks are weathered to varying depths across the Razafy NW deposit and have been described as weathered (oxidised and transitional) or fresh. The weathered domain is characterised by the oxidation of sulphide minerals e.g., pyrite, and by the formation of secondary hydrous clay minerals such as goethite and kaolinite.</li> </ul> <p><b>Weathered (oxidised) graphite schist 8.71-12.45 m in hole MNDD130</b></p>  <p><b>Fresh graphite schist at 35.21-38.73 m in MNDD130</b></p>  <ul style="list-style-type: none"> <li>The CP notes that kaolinisation of alumino-silicate minerals as seen at Razafy NW typically causes graphite to be split into thin flakes</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>when in contact with kaolin. Bimodal graphite populations are therefore noted i.e., large clean flakes vs small flakes, or split flakes.</p> <ul style="list-style-type: none"> <li>• The CP is of the opinion that the high metamorphic grade (upper-amphibolite to granulite facies) of the Razafy NW deposit is potentially favourable for the development of coarse graphite flakes.</li> <li>• The CP notes however that the ubiquitous kaolinisation of aluminosilicate minerals seen at Razafy has caused flake splitting and size reduction. See examples of graphite flakes in thin section below. Scale bars = 0.2 mm.</li> </ul> <p><b>Large graphite flakes in sample 4351 from NW-09-A at 10 m</b></p> 



Criteria	JORC Code explanation	Commentary
		<p><b>Split graphite flake in sample 4385 from NW-40-A at 21 m</b></p> 
<p><i>Dimensions</i></p>	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>Disseminated graphite flakes occur in four individual outcropping domains (zones) each consisting of several graphitic layers between about 5 and 40 m apparent thickness hosted within granulitic gneisses. The graphitic layers are separated by waste rock that may contain background values of up to about 3% TGC. The graphite mineralisation is generally quartzo-feldspathic and from preliminary thin section studies contain trace amounts of sillimanite. The individual mineralised zones extend about 250-350 m along strike to the NNW and dip at ~60-75° to the ENE, and have been traced by trenching and drilling along a total of approximately 1,100 m strike length. The down dip depth varies nominally between 55 and 115 m averaging roughly 85 m, while the vertical depth below topographic surface varies between about 50 and 105 m averaging about 75 m.</li> </ul>
<p><i>Estimation and modelling techniques</i></p>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation</i></li> </ul>	<ul style="list-style-type: none"> <li>The mineralisation has been estimated using ordinary kriging (OK), using Datamine Studio RM software, based on estimation parameters obtained from geostastical and spatial analysis and kriging neighbourhood analysis using Snowden Supervisor software.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>method was chosen include a description of computer software and parameters used.</i></p> <ul style="list-style-type: none"> <li><i>• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>• The assumptions made regarding recovery of by-products.</i></li> <li><i>• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>• Any assumptions behind modelling of selective mining units.</i></li> <li><i>• Any assumptions about correlation between variables.</i></li> <li><i>• Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>• Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<p>The OK grade estimation was carried out at the parent cell scale, with sub-blocks assigned parent block grades for the full extent of modelled mineralisation lenses, and an Inverse distance weighting to the power of two (IDS) check estimate was completed concurrently. TGC was estimated separately from S based on the requirement for the S estimate to be additionally be estimated based on the weathering state.</p> <p>Statistical analysis on 2 m composited drill hole data from within the interpreted mineralisation lenses individually to check grade population distributions using histograms, probability plots and summary statistics and the co-efficient of variation. The checks showed there were no significant outlier grades in the interpreted cut-off grade lenses for TGC ,while top cuts were required for S for some lenses.</p> <p>The parameters obtained from the spatial (variogram) analysis modelling completed for TGC in the East Main lens was used for all grade estimates. The double spherical model had a nugget of 0.15, with a preferred strike direction of 145° for the major axis having been modelled with a range to the first structure (69%) of 90 m and to the second structure (16%) at 130 m. The semi major axis is modelled towards at -65° towards 055° with ranges of 45 m and 70 m. The minor axis is modelled at 25° towards 055° with ranges of 30 m and 40 m.</p> <p>Due to changes in the geometry of the mineralisation along strike the search ellipse orientation was varied along strike to suit the overall geometry of the lenses, with the variogram orientation also altered to match the search ellipse orientation.</p> <p>Based on the results of the KNA the search ellipse was 80 m (major) by 40 m (semi-major) by 15 m (minor) for the first search pass, which was then doubled for the second pass and increased 20 fold for the final (3rd) pass to ensure all blocks were estimated. A minimum of 12 and maximum of 24 samples was used for the first pass, reducing to minimum 10 and maximum 20 in the second pass and minimum 6 and maximum 16 for the 3rd pass. A maximum of 4 samples per drill hole was allowed per block estimate with no octant based searching used and block discretization was 3 by 3 by 3 (X, Y, Z).</p> <p>Model validation was carried out visually, graphically, and statistically to ensure that the block model grade reasonably represents the drillhole data. Cross sections, long sections and plan views were initially examined visually to ensure that the model grades honour the</p>

Criteria	JORC Code explanation	Commentary
		<p>local composite drillhole grade trends. These visual checks confirm the model reflects the trends of grades in the drillholes.</p> <p>Statistical comparison of the mean drillhole grades with the block model grade shows reasonably similar mean grades. The IDS check estimate shows similar grades to the OK model, adding confidence that the grade estimate has performed well. The model grades and drill grades were then plotted on histograms and probability plots to compare the grade population distributions. This showed reasonably similar distributions with the expected smoothing effect from the estimation taken into account.</p> <p>Swath or trend plots were generated to compare drillhole and block model grades with TGC compared at 20 m E, 50 m N and 10 m RL intervals. The trend plots demonstrate reasonable spatial correlation between the model estimate and drillhole grades after consideration of drill coverage, volume variance effects and expected smoothing.</p> <ul style="list-style-type: none"> <li>• No reconciliation data is available as no mining has taken place.</li> </ul>
Moisture	<ul style="list-style-type: none"> <li>• <i>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>• <i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Visual analysis of the drill assay results demonstrated the lower cut-off interpretation of 3% TGC corresponds to natural break in the grade population distribution as well as corresponding well to the geological logging of graphite mineralised geological units. Metallurgical testing of composite intervals covering the full grade range of interpreted mineralisation appear to have delivered saleable products and as such all material within the interpreted mineralisation zones above a lower cut-off grade of 3% TGC have been classified as Mineral Resources amenable to eventual economic exploitation.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <li>• <i>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• No assumptions regarding minimum mining widths and dilution have been made.</li> </ul>

Criteria	JORC Code explanation	Commentary
Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Six down-hole drill core composites were submitted to ALS Perth for metallurgical tests to evaluate the quality and quantity of graphite extracted by flotation methods. The flotation samples were distributed evenly across the NW deposit. A broad range of feed grades was selected, from &lt;3% TGC to 20% TGC and between &lt;1% S to nearly 7%.</li> <li>Five of the composite samples were from the fresh domain and one from the weathered (oxidised / transitional) domain. The metallurgical process flowsheet included stage crushing and grinding, followed by up to six attritioning and flotation stages. Four of the six samples returned approximately 50% of flakes greater than 150 micron diameter.</li> <li>Coarse flake product (&gt;150 µm) ranged in purity from 78.2% to 98.3% TGC, while the fines product (&lt; 150 µm) ranged from 85.8% to 98.4% TGC.</li> <li>The CP is of the opinion that the limited metallurgical testing to date indicates that graphite concentrates of marketable size and purity may be produced from the Razafy NW deposit. This supports the classification of the Mineral Resource as an industrial mineral according to Clause 49 of the JORC Code. Snowden Optiro notes however that kaolinised graphite mineralisation, with associated split graphite flakes, may need additional cleaning and attritioning stages than non-kaolinised material and that further metallurgical testing is required to improve confidence in variability across the deposit.</li> </ul>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the</li> </ul>	<ul style="list-style-type: none"> <li>Density has been measured by means of caliper, laquer coated immersion, uncoated immersion and gas pycnometer methods. The gas pycnometer results have not been used as this method is not</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>frequency of the measurements, the nature, size and representativeness of the samples.</i></p> <ul style="list-style-type: none"> <li><i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<p>considered suitable for the deposit material. 5 historically collected density measurements apparently done by water displacement methods were available but since the exact interval measured are not known this data was used for comparison purposes only.</p> <p>A total of 324 measurements of full core by means of caliper completed by BlackEarth geologists fall within the mineralisation envelopes with half in fresh rock and half in weathered zone. QC checks by means of immersion for 26 samples were completed in the laboratory, while Snowden completed 26 caliper check measurements on half core samples. The QC checks validated that the caliper measurements were delivering reasonable results and therefore the caliper measurements have been used as the primary source for density values assigned to the model.</p> <ul style="list-style-type: none"> <li>The density measurements collected are considered appropriate for the material types.</li> <li>For weathered zone material the mean caliper measured density value of 2.21 t/m<sup>3</sup> is assigned. For the fresh mineralised material a mean caliper measured density of 2.47 t/m<sup>3</sup> is assigned. For waste rock the mean caliper density of 2.49 t/m<sup>3</sup> and 2.66 t/m<sup>3</sup> for weathered and fresh material is assigned.</li> </ul> <p>All density assigned is a dry bulk density.</p>
Classification	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>Classification of the MRE was carried out accounting for the level of geological understanding of the deposit, quality of samples, density data and drillhole spacing.</li> <li>The MRE has been classified as Inferred and Indicated 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.</li> <li>Overall the mineralisation trends are reasonably consistent over the drill sections.</li> <li>The MRE appropriately reflects the view of the Competent Person.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>No external audits have been undertaken.</li> </ul>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to</i></li> </ul>	<ul style="list-style-type: none"> <li>The relative accuracy of the MRE is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012).</li> <li>The Mineral Resource statement relates to global estimates of in situ tonnes and grade.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"> <li><i>• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li><i>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	