

17 November 2021

## ASX Announcement

### Razafy Northwest provides a significant 32% increase in Total Indicated Graphite inventory at Maniry Project

- The recently completed Exploration program has delivered a JORC compliant **Indicated and Inferred Resource for Razafy Northwest of 2.9Mt @ 9.82% TGC** at the Maniry Project in Southern Madagascar
- The additional Resource provides a significant and **material increase to the Company's inventory of very high-grade Graphite**
- Evidence of a **higher-grade core of approximately +12% TGC** in both the East and West lenses, which will be a key focus of future exploration activities commencing in 2022
- **The near surface Resource remains open along strike and down dip** with the potential to add to the Company's overall inventory of defined high-grade Graphite
- The Company has commenced an update to its **Scoping Study to outline the significant impact of the results to the Maniry Projects overall economics**

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 a maiden JORC compliant Mineral Resource estimation for the Razafy Northwest (NW) Graphite Deposit.

The Razafy NW Indicated and Inferred Resource, comprising of 2.9Mt @ 9.82% Total Graphitic Carbon (TGC) at a 6% TGC cut-off grade is summarised below in Table A. The majority of the Resource has been classified with a high degree of confidence at an 'Indicated' classification, with the remainder classified as 'Inferred'.

| Area       | Classification | Tonnes (Mt)  | Total Graphitic Carbon (%TGC) | Contained (tonnes of graphite) |
|------------|----------------|--------------|-------------------------------|--------------------------------|
| Razafy NW* | Indicated      | 1.9Mt        | 9.6%                          | 182,000                        |
|            | Inferred       | 1.0Mt        | 10.1%                         | 101,000                        |
|            | <b>TOTAL</b>   | <b>2.9Mt</b> | <b>9.8%</b>                   | <b>283,000</b>                 |

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

*\*Reported at a 6% cut off grade; 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.*

This resource estimate is the culmination of the Company's preliminary diamond drilling exploration program to identify 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.

**BlackEarth Minerals NL**  
**ACN 610 168 191**

Level 3, 1138 Hay Street  
 West Perth WA 6005

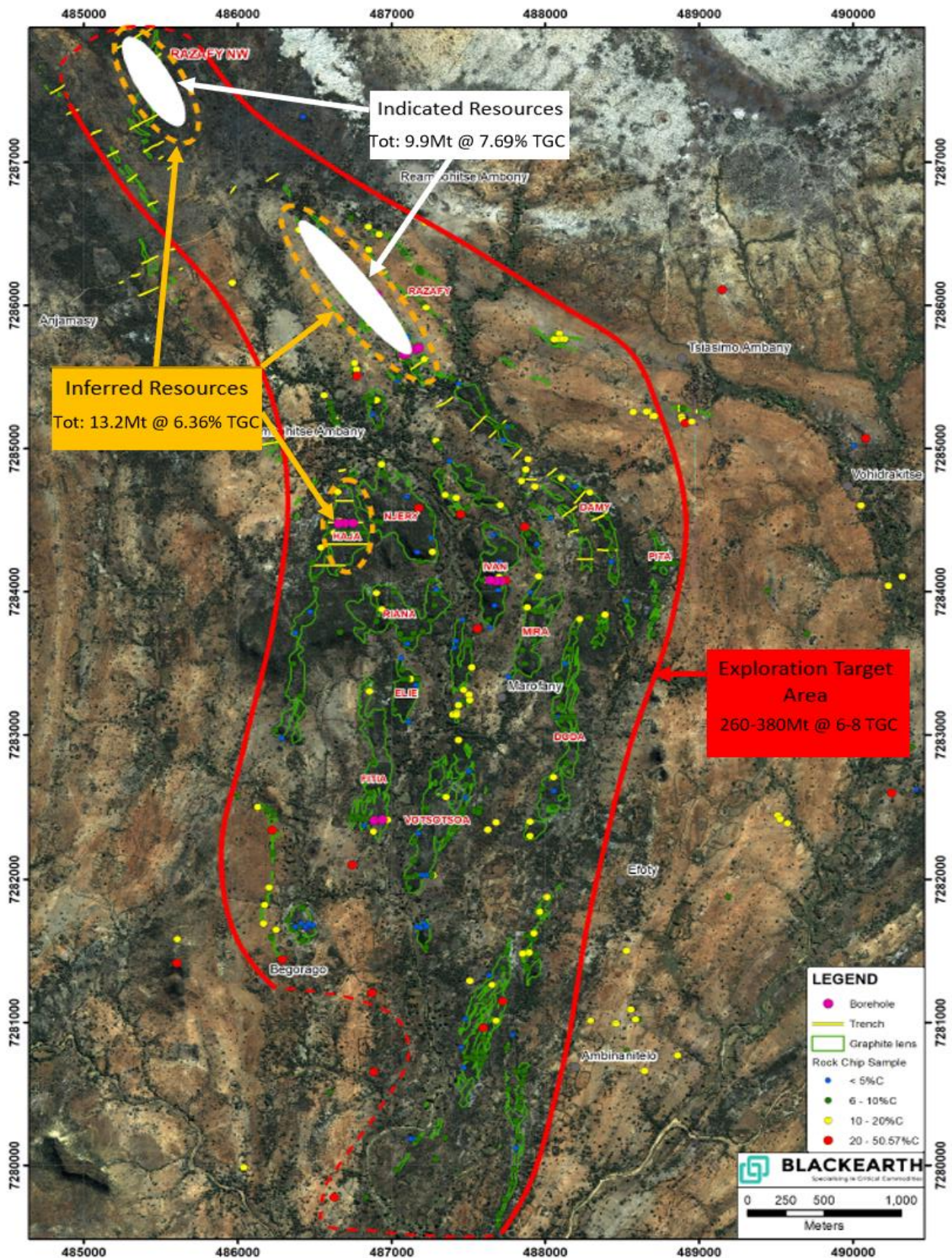
[info@blackearthminerals.com.au](mailto:info@blackearthminerals.com.au)  
[blackearthminerals.com.au](http://blackearthminerals.com.au)

PO BOX 300  
 West Perth WA 6872

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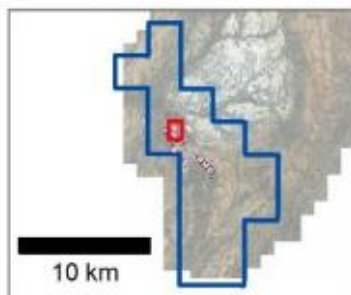
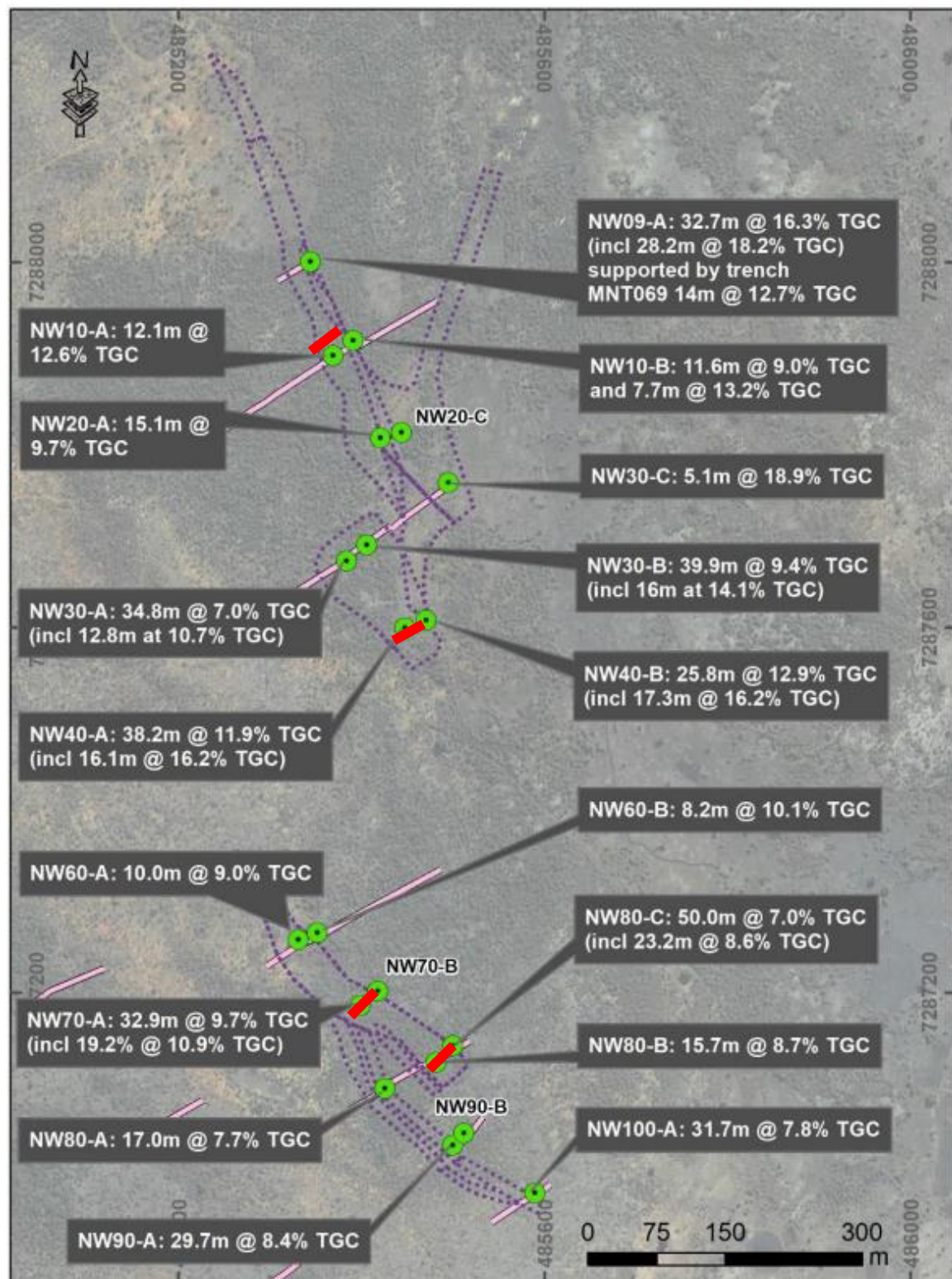


A review of the Company's earlier Scoping Study is now underway to include the economic impact of both the Razafy NW Resources and shall include improvements and changes to a number of economic and project factors.



Map 1 : Maniry Graphite Project Area





DH - assayed

DH - assayed

Sections reported in the technical summary below

Trench line

Graphite lens outline



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Map 2 : Razafy NW Drill Hole and Trench Line Locations as reported ASX 11 October 2021



## Metallurgical Test Work

The aim of the program undertaken at ALS Global (Perth) was to evaluate the variability of 6 graphite samples through an existing optimal circuit, with select comminution parameters being evaluated on an additional composite. Samples were taken from different locations from within Razafy NW with head grades ranging from 2.9% TGC to 20.7% TGC. The final results were largely in line with those achieved from the Razafy area. Further details are provided in the technical summary below.

## Impact of Results and Future Plans

The impact of this additional high-grade resource to the Company's defined inventory is material and potentially will add significant value to the project's economics.

The Company's Executive team continues to identify new and higher-grade areas which will be followed up in 2022.

As the map above indicates, the potential of the current 3kmx7km Maniry graphite domain remains significant with an Exploration Target of 260-380Mt @ 6-8% TGC (1).

**(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

### Managing Director, Tom Revy commented:

"The success at Maniry of discovering and subsequently defining a high-grade Resource is testament to the skills and experience our team has in Madagascar.

This additional discovery at Razafy NW high-grade resources near surface has the potential to materially enhance the project economics and significantly increase the projects life, and will be further investigated as part of the ongoing DFS.

These results are exciting outcomes for the Company and we look forward to updating the market with additional positive results in the short term"

### The new and updated Company Resource Inventory is reported as follows -

| Area       | Classification | Tonnes (Mt) | Total Graphitic Carbon (%TGC) | Contained (tonnes of graphite) |
|------------|----------------|-------------|-------------------------------|--------------------------------|
| Razafy*    | Indicated      | 8.0Mt       | 7.2%                          | 576,000                        |
|            | Inferred       | 3.2Mt       | 6.8%                          | 218,000                        |
| Razafy NW* | Indicated      | 1.9Mt       | 9.6%                          | 182,000                        |
|            | Inferred       | 1.0Mt       | 10.1%                         | 101,000                        |
| Haja**     | Indicated      | -           | -                             | -                              |
|            | Inferred       | 9.0Mt       | 5.8%                          | 522,000                        |
| TOTAL      | Indicated      | 9.9Mt       | 7.7%                          | 758,000                        |
|            | Inferred       | 13.2Mt      | 6.4%                          | 841,000                        |

Table B - Maniry Project Minerals Resources

\*6% 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



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

## CONTACTS

|   |                             |
|---|-----------------------------|
| <b>Tom Revy</b> – Managing Director, BlackEarth Minerals NL   | 08 6145 0289   0411 475 376 |
| <b>David Round</b> – Finance Director, BlackEarth Minerals NL | 0411 160 445                |
| <b>Jane Morgan</b> - Investor and Media Relations             | 0405 555 618                |

For more information – [www.blackearthminerals.com.au](http://www.blackearthminerals.com.au)

## Competent Persons Statement

*The information contained in this report that relates to Mineral Resources is based on information compiled by Ms. Annick Manfrino, Principal of Sigma Blue. Ms. Manfrino is a member of The Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Ms. Manfrino completed a Maniry site inspection and is the Competent Person for the resource estimation. Ms. Manfrino consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.*

## 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.

This announcement is not an offer, invitation or recommendation to subscribe for, or purchase securities by the Company. Nor does this announcement constitute investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision. Investors should obtain their own advice before making any investment decision.



## Resource Summary

The NW Razafy Mineral Resource estimate reported as a 6% total graphitic carbon (TGC) as of the 12<sup>th</sup> of November 2021 is as follows:

- Indicated Resource: 1,897 kt @ 9.65% TGC, 1.55% S
- Inferred Resource: 1,034 kt @ 10.1%TGC. 3.4% S

For a total Indicated + Inferred resource of 2,931 kt @ 9.8% TGC, 2.2% S. The resource estimate is presented in Table 1 for a range of TGC with grade-tonnage diagrams presented in Figure 1.

**Table 1 NW Razafy Mineral Resource Estimate – Resource Report**

| TGC Cut-off Grade | Tonnes    | TGC%  | S%   |
|-------------------|-----------|-------|------|
| Indicated         |           |       |      |
| 7.0%              | 1,535,800 | 10.38 | 1.56 |
| 6.0%              | 1,897,100 | 9.65  | 1.55 |
| 5.0%              | 2,188,400 | 9.10  | 1.63 |
| Inferred          |           |       |      |
| 7.0%              | 813,200   | 11.1  | 3.63 |
| 6.0%              | 1,034,200 | 10.13 | 3.41 |
| 5.0%              | 1,228,500 | 9.41  | 3.35 |
| Total             |           |       |      |
| 7.0%              | 2,348,900 | 10.63 | 2.27 |
| 6.0%              | 2,931,300 | 9.82  | 2.21 |
| 5.0%              | 3,416,900 | 9.21  | 2.25 |

### Resource Estimate Input Data & Methodology

#### Database

- The NW Razafy drillhole database comprises 21 diamond drillholes. Additionally, 9 trenches cut the outcropping mineralisation.
- The deposit is drilled on 100m section lines with 30m drill spacing on sections.
- The drillhole database contains 505 assayed samples for a total assayed meterage of 807m. Cores were sampled on 2m interval maximum within lithological units. The average assayed sample length is 1.6m.
- Drillhole samples have been assayed systematically for carbon, total graphitic carbon and sulphur. Additionally, a suite of elements has been measured by portable XRF device for most of the intercepts. Trench samples were assayed for TGC only.
- Density measurements for the deposit are limited to 5 samples obtained by the wax coated water displacement method at the Perth Intertek laboratory. Given that the deposit is on strike 800m north of the Razafy deposit, the Razafy density data comprising 40 wax-coated water displacement measurements, was used in the resource model.

#### Geological Setting & Grade Envelopes

- The structural setting of the NW Razafy area is complex and there is evidence on the ground and through the local geological mapping of faults and structural displacements
- The background rock of felsic and garnet granulites hosting the graphitic schists have usually low TGC grades in the order of 1%-2% TGC with cross-cutting pegmatites and amphibolite of much lower TGC tenures.
- A 3% approximate TGC cut-off grade was used to define the grade envelopes.
- The drilling, trench information and outcrop mapping lead to the interpretation of a series of graphitic lenses, "East" and "West" as illustrated in Map 2.
- There is evidence of a higher-grade core of approximately +12% TGC in both the East and West lenses. The current drill spacing only allows to follow the continuity of the high-grade core for one of the East lens on two consecutive drillhole fences (100m apart along strike).
- Table 2 and Table 3 provide the summary statistics of the 2m composites included in the grade envelopes.
- The volumes of the grade envelope solids are as follows: East lenses, excluding the high-grade core: 825,000 m<sup>3</sup>, East lens high-grade core: 89,000 m<sup>3</sup> and West Lens: 697,000m<sup>3</sup>



**Table 2 Summary Statistics of TGC 2m composites by Lens in Grade Envelopes**

|              | East Lens<br>High Grade Zone | East Lenses<br>(exc. High grade) | West Lenses | Total |
|--------------|------------------------------|----------------------------------|-------------|-------|
| Number       | 25                           | 121                              | 135         | 281   |
| Minimum TGC% | 10.25                        | 0.10                             | 1.33        | 0.10  |
| Maximum TGC% | 27.48                        | 33.85                            | 18.61       | 33.85 |
| Average TGC% | 17.00                        | 8.71                             | 8.25        | 9.22  |

**Table 3 Summary Statistics of Sulphur 2m composites by Lens & Oxidation Zone in Grade Envelopes**

| Number of Composites | East Lens High<br>Grade Zone | East Lenses (exc.<br>High grade) | West Lenses | Total |
|----------------------|------------------------------|----------------------------------|-------------|-------|
| Oxide                | 13                           | 44                               | 49          | 106   |
| transition-fresh     | 14                           | 87                               | 94          | 195   |
| Total                | 27                           | 131                              | 143         | 301   |
| Minimum S%           | East Lens High<br>Grade Zone | East Lenses<br>(exc. High grade) | West Lenses | Total |
| Oxide                | 0.04                         | 0.03                             | 0.03        | 0.03  |
| transition-fresh     | 0.04                         | 0.11                             | 0.06        | 0.04  |
| Total                | 0.04                         | 0.03                             | 0.03        | 0.03  |
| Maximum S%           | East Lens High<br>Grade Zone | East Lenses<br>(exc. High grade) | West Lenses | Total |
| Oxide                | 0.54                         | 0.34                             | 1.23        | 1.23  |
| transition-fresh     | 10.29                        | 12.31                            | 3.97        | 12.31 |
| Total                | 10.29                        | 12.31                            | 3.97        | 12.31 |
| Average S%           | East Lens High<br>Grade Zone | East Lenses<br>(exc. High grade) | West Lenses | Total |
| Oxide                | 0.18                         | 0.09                             | 0.21        | 0.16  |
| transition-fresh     | 2.86                         | 3.14                             | 1.61        | 2.39  |
| Total                | 1.57                         | 2.12                             | 1.13        | 1.60  |

### Variography

The spatial continuity of TGC and sulphur was assessed separating the data into a West and an East zone. Normal score variograms were modelled with ranges obtained along strike, down dip and across dip of 125mx50mx25m and 105mx60mx20m for TGC in West and East, and 100mx40mx20m and 105mx70mx20m for sulphur.

### Grade Estimation

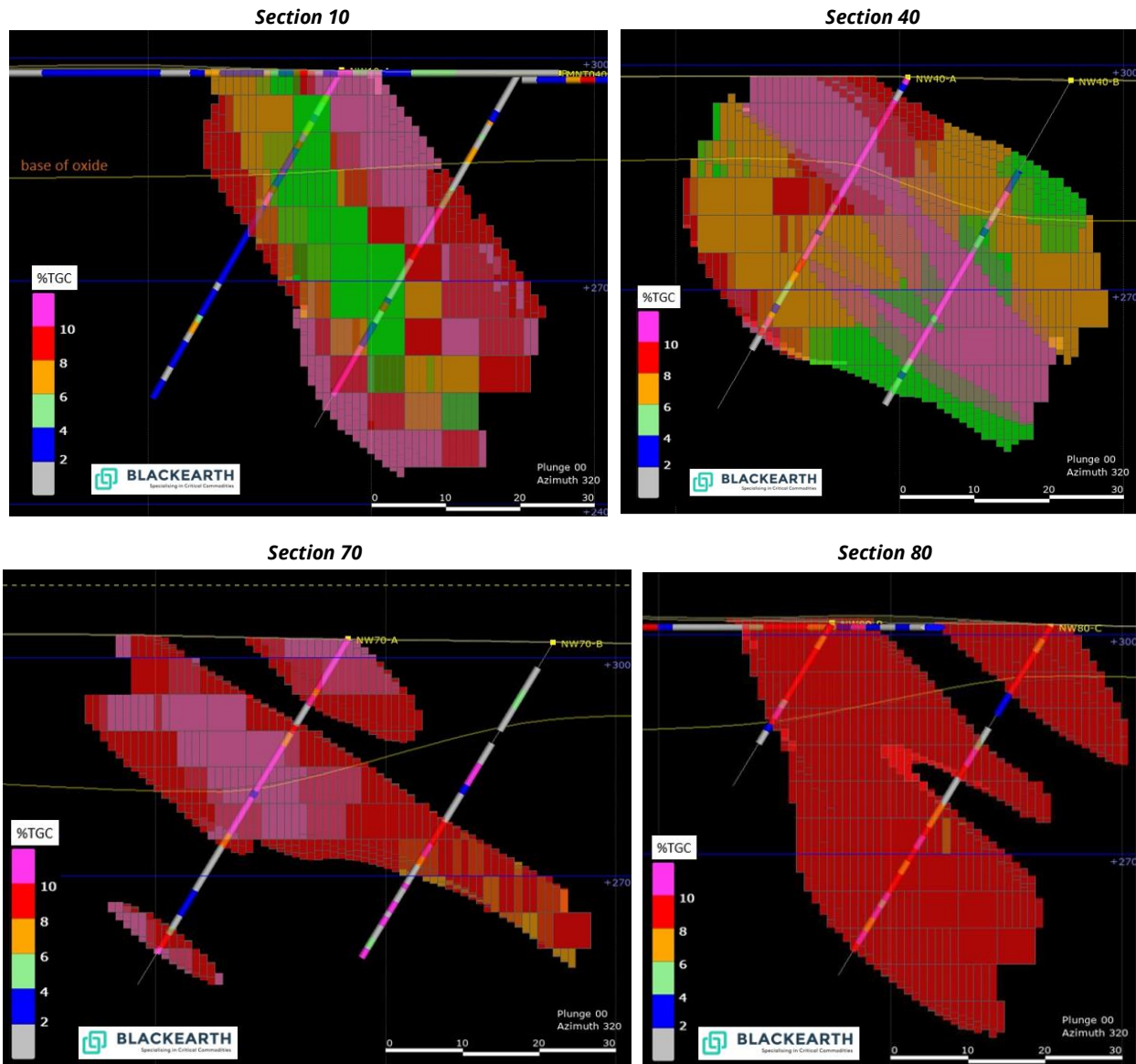
- TGC and sulphur were estimated by ordinary kriging within the grade envelopes. The oxide and fresh TGC samples were combined to estimate TGC grades inside the envelopes, whilst for sulphur, oxide and fresh sulphur grades were estimated using only the data pertaining to the respective oxidation zones.
- An inverse distance square estimate and nearest neighbour estimate were completed as comparison to the ordinary kriged model.
- No top-cut measure was used for the TGC nor the sulphur estimations.
- The search ellipse dimensions were chosen equal to the ranges defined by the variography.
- Blocks were estimated using a maximum of 20 composites with a limit of 5 composites originating from a single drillhole
- The changes in strike direction observed over the extent of the deposit were accounted for using the variable orientation option available in Leapfrog EDGE, and adapting the variable orientation guides to the attitude of the lenses.



### Classification

Given the current drillhole spacing, the structural complexity of the area and the measured spatial continuity of the TGC grades obtained by the variography, it seems adequate to classify the resource as either Indicated or Inferred. The slope of regression, one of the parameters calculated during estimation was the criteria used to separate Indicated from Inferred material. This criteria accounts for the data density, its location to the block estimated and the continuity of the data as measured by the variography. A cut-off of 0.4 was used to separate Indicated from Inferred material

### Sections of the TGC Grade Model with Drillhole & Trenches (Refer Map 2 above)



### Metallurgical Test Work - Summary

The preliminary metallurgical test work was undertaken at ALS Global (Perth, Western Australia). Comments and observations of the results are as follows:

- The coarse flake product grade achieved ranged from 78 – 98% TGC
- The fines product grade returned 85 – 98% TGC
- The recovery of graphite to the coarse concentrate as a percentage of overall distribution ranged from 15 – 55%
- The overall recovery to concentrate returned 39 – 98%
- Comminution testing indicated low abrasion index, 0.032 and moderate rod mill work index, 13kWh/t

One of the six samples tested returned all the lower values; it is suspected that this sample contained appreciable amounts of clay. This was also observed in the Razafy Resource test work which only constitutes a minor (fine clay) component of the overall Razafy Resource.



# JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

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

| Criteria  | Commentary   |
|---|--|
| <b>Sampling techniques</b>                            | <p><b>Drilling</b></p> <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 quarter core with breaks at lithological discontinuities - typical 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>sampling is considered to be comprehensive and representative</li> <li>quarter cores are sent for analysis, the remaining core material is retained</li> <li>and stored in BEM's secure core shed</li> <li>metallurgical samples were obtained from diamond drilling using ½ cores. A split of crushed sample was used for metallurgical test work</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 JCB backhoe loader or by shovels</li> <li>trained geologists log and systematically sample the trenches using a rock hammer at 2m intervals</li> <li>CRMs are inserted ~every 20th samples for QAQC purposes</li> </ul> |
| <b>Drilling techniques</b>                            | <ul style="list-style-type: none"> <li>diamond drilling only</li> <li>core size is HQ in 0.5-1.5m runs</li> </ul>  |
| <b>Drill sample recovery</b>                          | <ul style="list-style-type: none"> <li>core recovery is routinely recorded every metre by trained geologists</li> <li>no bias or relationship has been observed between recovery and grade</li> <li>Recovery is typically +80% within weathered rock and +95% in fresh rock in nearly all instances</li> </ul>   |
| <b>Logging</b>  | <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 digitally recorded using an industry standard code system</li> <li>cores are systematically photographed</li> <li>the data collected offers sufficient detail for the purpose of interpretation and further studies</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 digitally 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>  |
| <b>Sub-sampling techniques and sample preparation</b> | <p><b>Drilling</b></p> <ul style="list-style-type: none"> <li>quarter 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>duplicate samples are taken (remaining quarter core) every 20th sample</li> <li>sample preparation from quarter core to pulp is undertaken at BEM's sample</li> <li>preparation facility in Antananarivo (former Intertek-Genalysis facility)</li> </ul> <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 measured 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</li> </ul>                             |



| Criteria   | Commentary  |
|--|---|
| <b>Quality of assay data and laboratory tests</b>              | <b>Drilling &amp; Trenching</b> <ul style="list-style-type: none"> <li>assaying is undertaken by Intertek Genalysis in Perth (Aus)</li> <li>samples are pulverised to 75 microns, roasted to 420°C and digested with a weak acid. Final analysis is undertaken by CS analyser (Code: C73/CSA)</li> <li>standards and duplicates (duplicates only for core, not for trench samples) are inserted every 20<sup>th</sup> sample by the BEM technical team in addition to the internal QAQC from the laboratory. No issues been observed with QAQC</li> <li>Metallurgical Tests</li> <li>metallurgical work was undertaken by ALS Metallurgy Perth</li> </ul>   |
| <b>Verification of Sampling and assaying</b>                   | <ul style="list-style-type: none"> <li>significant intersections have been verified by alternative company personnel</li> <li>no twin holes have been completed</li> <li>all data is recorded digitally using a standard logging system and files are stored in an industry standard database</li> </ul>  |
| <b>Location of data points</b>                                 | <b>Drilling</b> <ul style="list-style-type: none"> <li>all collars have been located using a DGPS (accurate to 1cm) Projection and grid systems used: UTM (WGS84 Z38S).</li> <li>drillhole lengths are limited to 50m</li> <li>no downhole survey was undertaken</li> </ul> <b>Trenching</b> <ul style="list-style-type: none"> <li>all XYZ surveying is collected using a handheld Garmin GPS accurate to ±4m</li> <li>Projection and Grid system used: UTM (WGS84) Z38S</li> </ul>  |
| <b>Data spacing and distribution</b>                           | <b>Drilling</b> <ul style="list-style-type: none"> <li>the drill hole grid spacing is 100m along strike by 30m across strike</li> <li>the drill hole spacing allowed to follow the graphitic mineralisation outlines from section to section and down dip</li> <li>samples have been composited to 2m length within the mineralised lenses interpreted to complete the statistical analysis, variography and estimation</li> </ul> <b>Trenching</b> <ul style="list-style-type: none"> <li>the geologist in charge of the program systematically samples all visible mineralised units as well as the lithologies either side of these</li> <li>this data is not thought to be appropriate for resource estimation purposes</li> <li>no sample compositing has been applied.</li> </ul> |
| <b>Orientation of data in relation to geological structure</b> | <b>Drilling</b> <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 intersect the mineralisation at a sufficient angle to the dip of the orebody, in addition, the mineralisation envelopes are interpreted in three-dimensions</li> </ul> <b>Trenching</b> <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>   |



### Section 3 Estimation and Reporting of Mineral Resources

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

| Criteria                                   | Commentary   |
|--|--|
| <b>Database integrity</b>                  | <ul style="list-style-type: none"> <li>The drillhole and trench database has been loaded in an industry standard database</li> <li>Validation for duplicates, missing data, outliers, erroneous intervals is completed before proceeding to the interpretation and analysis</li> </ul>   |
| <b>Site visits</b>                         | <ul style="list-style-type: none"> <li>Annick Manfrino, Competent Person for the resource estimate visited the site of the Razafy deposit located 800m south, along strike NW Razafy in March-April 2018</li> <li>All drilling, sampling and sample preparation procedures are considered of industry standard, well supervised and carried out</li> </ul>   |
| <b>Geological interpretation</b>           | <ul style="list-style-type: none"> <li>The structural setting of the NW Razafy area is complex. The geological interpretation of the graphitic lenses is based on local outcrop mapping, trench logging and assay data and drillholes and take into account the presence of faults</li> <li>Graphite is hosted within graphitic schists and granulites</li> <li>Trenches have been used with success in early exploration stages and for the adjacent Razafy deposit to confirm the strike continuity. Nine trenches confirm the position of the NW Razafy lenses at surface</li> <li>Mineralisation envelopes were created with Leapfrog GEO using a nominal +3% TGC cut-off grade. A high-grade core was interpreted at a +12% TGC for one of the East lenses</li> <li>Only rare occurrences of intersections of non-mineralised material are included in the grade envelopes</li> <li>Logged graphitic rich zones correlate extremely well with TGC assay results</li> <li>No alternative interpretation has been considered at present</li> <li>The weathered horizon (oxide) can easily be interpreted from the sulphur depletion observed in the assay data. The oxide horizon is approximately 20m thick.</li> </ul>  |
| <b>Dimensions</b>                          | <ul style="list-style-type: none"> <li>The Mineral Resource is limited to the NW Razafy deposit</li> <li>The NW Razafy deposit comprises two sets of graphitic lenses -East and West-</li> <li>The East lenses have a 400m and 200m strike length, the West lenses have a 260m and 190m strike length. Down dip extension of the grade envelope solids varies between 40m and 50m from the last drillhole on the section. The lenses extend to a maximum of 65m below surface</li> <li>the NW Razafy block model extents 1,100m along strike, 710m across strike and 85m at depth</li> </ul>   |
| <b>Estimation and modelling techniques</b> | <ul style="list-style-type: none"> <li>Total graphitic carbon and sulphur have been estimated by ordinary kriging using along strike, down dip and across dip searches of 125mx50mx25m and 105mx60mx20m for TGC in the West and East lenses, and 100mx40mx20m and 105mx70mx20m for sulphur.</li> <li>Drill section are spaced at 100m with drillholes spaced at 30m across sections</li> <li>Kriging parameters for both TGC and sulphur were obtained from modelling the directional variograms (normal score variograms) for the two main zones.</li> <li>Nugget values are 21%-22% of the total sill for TGC and 9% for sulphur</li> <li>The grade estimation was completed using Leapfrog EDGE software with sub-blocking to honour the volume of the grade envelope solids</li> <li>The block model is based on 25m along strike by 5m across strike by 5m Z</li> <li>Mineralisation envelopes were used as hard boundaries during the interpolation</li> <li>The base of oxide surface was used as a hard boundary for the sulphur estimation but as a soft boundary for the total graphitic carbon estimation</li> <li>No top-cut measure was used. The maximum total graphitic carbon value for the 2m sample assays is 33.8%</li> <li>The grade estimates were validated visually and statistically to ensure that they honour spatially and statistically the input data.</li> <li>No previous estimate exists for this deposit</li> </ul> |
| <b>Moisture</b>                            | <ul style="list-style-type: none"> <li>The Resource is reported on a dry tonnage basis</li> </ul>  |
| <b>Cut-off parameters</b>                  | <ul style="list-style-type: none"> <li>The resource is reported at a 6% TGC cut-off grade in line with other reported Mineral Resources in East Africa</li> <li>No mining study has been completed to date on the NW Razafy deposit and cut-off grade calculations are not available</li> </ul>  |
| <b>Mining factors or assumptions</b>       | <ul style="list-style-type: none"> <li>Based on the orientations, thicknesses and depths to which the graphitic lenses have been modelled and their estimated TGC, the potential mining method is considered to be open pit mining</li> </ul>  |



| Criteria  | Commentary   |
|---|--|
| <b>Metallurgical factors or assumptions</b>       | <ul style="list-style-type: none"> <li>Metallurgical testwork program has been undertaken on drill core samples taken from a drill program completed. A total of 6 diamond drill holes were sampled, to create representative composite samples for comminution and flotation testwork. Testwork was undertaken by ALS Metallurgy in Perth WA, managed by BlackEarth Minerals. The flotation testwork, using a standard variability test established for Razafy with the results indicating that a high grade (95% TGC) concentrates can be produced at a recovery of 93%. Comminution testwork indicates the material has soft to moderate hardness, similar to Razafy. No deleterious elements in the concentrates have been identified to date</li> <li></li> </ul>   |
| <b>Environmental factors or assumptions</b>       | <ul style="list-style-type: none"> <li>It is assumed that the processing of ore will have minimal environmental impact. This is based upon other graphite processing operations and basic assumptions on how graphite ore will be processed at Maniry</li> </ul>   |
| <b>Bulk density</b>                               | <ul style="list-style-type: none"> <li>The bulk density used to report the Mineral Resource is based on 40 measurements made by wax coated water displacement method by the ALS Perth laboratory from the main Razafy deposit located 800m south along strike. Five density measurements from NW Razafy cores were completed by the water displacement method by the Intertek Perth laboratory in 2021</li> <li>Bulk density is attributed in the model using the water displacement Razafy density values averaged over 10m z slices. The values assigned to the block model range from 2.24 t/m<sup>3</sup> to 2.38 t/m<sup>3</sup>. The average density of the reported resource is 2.24t/m<sup>3</sup></li> </ul>  |
| <b>Classification</b>                             | <ul style="list-style-type: none"> <li>The graphitic lens interpreted can be followed on surface by mapping and trenches</li> <li>Trenches completed during the early exploration stages plus 2 additional trenches completed in 2021, confirm the location at surface of the thickness of the mineralisation estimated by the model. The trench data is used to guide the definition of the grade envelopes but assays results are not used in the grade estimation.</li> <li>For the East and West lenses, the kriging slope of regression obtained for the total graphitic carbon estimate was used to separate Indicated from Inferred resource at depth. Blocks with slope of regression greater than 0.4 were classified as Indicated, the other blocks were classified as Inferred</li> <li>The Mineral Resource estimate appropriately reflects the view of the Competent Persons</li> </ul> |
| <b>Audit or reviews</b>                           | <ul style="list-style-type: none"> <li>No audit nor review were undertaken for this Minerals Resource Estimate</li> </ul>  |
| <b>Discussion of relative accuracy/confidence</b> | <ul style="list-style-type: none"> <li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012 Edition)</li> <li>The mineral resource is a global estimate of tonnes and grade</li> <li>Relative tonnages and grade above the nominated cut-off grades for TGC are provided in the body of this report</li> <li>The contained graphite values were calculated by multiplying the TGC grades (%) by the estimated tonnage on a block by block basis</li> <li>No production data is available to reconcile results with</li> </ul>   |