

## ASX ANNOUNCEMENT

21 March 2025

### SIGHTER METALLURGY TESTWORK ON PHOSPHATE MINERALISATION, SHAWA CARBONATITE MINING LICENCES, ZIMBABWE

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#### Key Highlights

- Sighter Metallurgical testwork is underway on phosphate ( $P_2O_5$ ) mineralised samples taken from Target 1 of 4 phosphate target areas identified within the Shawa carbonatite. Target 1 extends over an area of approximately 2,700m by 800m. The testwork will investigate the performance of a bulk sample of approximately 50Kg, in producing a potentially economic concentrate grade of around 30%  $P_2O_5$ . SGS Laboratory at Johannesburg is undertaking the work.
- This follows from recent exploration on the Shawa carbonatite by MRG, that has initially identified highly promising multi-commodity targets in addition to phosphate, including REE and Vermiculite, from outcrop/subcrop and soil sampling in conjunction with geological mapping (ASX Announcement 11 November 2024).
- Details of the metallurgical testwork as follows:
  - The 50kg bulk sample was derived from phosphate mineralized outcrop/subcrop sample locations in Target Area 1 which previously assayed from 3% to 17%  $P_2O_5$  (Figure 2).
  - Material to be tested will have an average head-grade >4%  $P_2O_5$ .
  - Chemical analysis will determine the exact  $P_2O_5$  head-grade.
  - Mineralogical studies via X-Ray Diffraction (XRD) analyses and Bulk Modal Analyses (BMA).
  - Flotation testwork:
    - Three (3) grind sizes
    - Reagents – 5 rougher
    - Cleaner – 5 cleaner
  - Rare Earth Element (REE) analyses will take place during the Chemical analyses of the bulk sample (Table 1).
  - Results from the metallurgical testwork are expected in Q3, 2025.
- Exploration summary findings to date from Shawa Carbonatite mining licences:
  - Phosphate target from outcrop subcrop and soil samples, with assay results in outcrop/subcrop up to 17.24%  $P_2O_5$ , and soil up to 8.04%  $P_2O_5$ .

- TREO assay results up to 2,522ppm in outcrop/subcrop (11 samples >1000ppm) and 1,103ppm Carbonatites are known to host an in soil samples.
- MREO assay results (Nd+Pr+Tb+Dy oxides) in outcrop/subcrop up to 508ppm (6 samples >300ppm); and up to 295ppm in soils.
- Sr in 5 outcrop/subcrop samples assayed >5,000ppm (detection limit), with assays up to 1,366ppm in sieved soil samples.
- Nb oxide assays up to 658ppm in outcrop/subcrop and 919ppm in soil samples.
- Fe for 5 samples in outcrop/subcrop and 10 in soil assayed above detection of 25%.
- Ba oxide as high as >50,000ppm in outcrop/subcrop (detection limit) and 22,345ppm in soil.
- Vermiculite in the form of an existing, partially mined deposit warrants evaluation.

MRG Metals Limited (“MRG” or “the Company”) is pleased to announce commencement of Sighter Metallurgical testwork on a high grade P<sub>2</sub>O<sub>5</sub> bulk sample from the phosphate Target Area 1 (refer **ASX Announcement 11 November 2024, Figure 2**) from the Shawa Carbonatite Mining Licences in Zimbabwe (Figure 1).

**MRG Chairman, Mr Andrew Van Der Zwan**, said:

*“We are pleased to commence this Sighter Metallurgical testwork program, which will assess if an economic concentrate grade can be achieved at the Shawa Carbonatite Mining Licences in Zimbabwe. Our initial exploration results have been encouraging, identifying several multi-commodity targets within the licence areas. This testwork program is the next step for MRG in Zimbabwe and will help us understand the potential within the licences, including the concentrate grades and mineralogy of the bulk sample. We look forward to updating Shareholders as this program advances.”*

### **Details of the exploration at Shawa**

A geological mapping, grid soil sampling and outcrop/subcrop sampling program was completed by MRG at the ten (10) Wickbury Mining Licences within the Shawa carbonatite (refer **ASX Announcements 21 February 2024 and 1 July 2024 for details on exploration work**). pXRF analyses was conducted on all samples (refer **ASX Announcement 1 July 2024 for the pXRF results**), followed by laboratory analyses at the accredited SGS laboratory in Johannesburg, South Africa (refer **ASX Announcement 11 November 2024**). The assay results generated several outcrop/subcrop and soil targets in various commodities (refer **ASX Announcement 11 November 2024**).

- Very high P<sub>2</sub>O<sub>5</sub> assay results were received from outcrop/subcrop samples, with assays as high as 17.24% P<sub>2</sub>O<sub>5</sub> (refer **ASX Announcement 11 November 2024**). Four (4) hard-rock P<sub>2</sub>O<sub>5</sub> targets for further exploration have been generated by the assay results (Figure 2). Very high P<sub>2</sub>O<sub>5</sub> assay results were also received from soil samples, with results as high as 8.04% P<sub>2</sub>O<sub>5</sub> (refer **ASX Announcement 11 November 2024**). Clear soil P<sub>2</sub>O<sub>5</sub> targets have also there been generated for further exploration (refer **ASX Announcement 11 November 2024**).

- Total rare earth oxides (TREO) assay results were returned as high as 2,522ppm in outcrop/subcrop and as high as 1,103ppm in soil samples (**refer ASX Announcement 11 November 2024**). The magnet rare earth oxides (MREO) assay results (Nd+Pr+Tb+Dy oxides) in outcrop/subcrop is as high as 508ppm (6 samples >300ppm) and as high as 295ppm in soils. Assays for the NdPr oxides in outcrop/subcrop is as high as 300ppm, while assays for TbDy oxides in outcrop/subcrop are as high as 315ppm. The highest TREO and MREO assays for outcrop/subcrop samples correspond with the P<sub>2</sub>O<sub>5</sub> Target 1 and to a lesser degree the outcrop/subcrop P<sub>2</sub>O<sub>5</sub> Target 2.
- Highly elevated Sr assays of up to >5,000ppm (detection limit, **refer ASX Announcement 11 November 2024**).
- Nb oxide assays as high as 658ppm in outcrop/subcrop and as high as 919ppm in the soil samples.
- Several Fe assays for in outcrop/subcrop and soil samples are above the detection limit of 25%.
- Ba assays for 9 samples in outcrop/subcrop as high as >50,000ppm (detection limit); and as high as 22,345ppm in soil.

### Details of the Sighter Metallurgical testwork

A contract has been signed with SGS Laboratory, Johannesburg, to conduct Sighter Metallurgical testwork on P<sub>2</sub>O<sub>5</sub> mineralised samples from outcrop/subcrop Target Area 1 (c 2,700m by 800m sized target) (**refer ASX Announcement 11 November 2024, Figure 2**). The main aims of the study are to determine if an equal or better than 30% P<sub>2</sub>O<sub>5</sub> concentrate can be generated from the mineralised bulk sample from the Shawa Carbonatite. The study will also determine the mineralogy of the bulk sample. Chemical analyses will then also supply information on other elements, such as REEs (**refer Table 1**), in the bulk sample and in the concentrate. Six larger samples, each containing samples from 2 sample positions within the P<sub>2</sub>O<sub>5</sub> Target 1 Area (**refer Figure 2**), will be delivered to SGS. The analytical grades of the 6 samples range from 3.53% to 17.24% P<sub>2</sub>O<sub>5</sub>. The head-grade of the bulk sample must be determined first, before the rest of the study continues. The scope of work for the Sighter Metallurgical study is as follows:

#### 1. Sample Preparation and Chemical Analyses for ~6 Samples

The samples received will be stage crushed to -1.7 mm, an aliquot will be removed from each sample, pulverised and submit for chemical analysis, major elements via XRF.

#### 2. Sample Preparation

The samples received will be crushed to -1.8 mm and split into aliquots for the test work and analyses.

A four-point milling curve will be generated on 2 kg batches. Milling will be conducted using a rod mill at 50% solids content. A total of 3-4 random 2 kg batches will be milled for different times and PSD will be conducted on each mill product. Based on milling curve data sample will be milled to specific grinds for the flotation test work.

### 3. Chemical Analyses

An aliquot of the feed chemical analysis will be pulverised and submitted for the following analytical methods (refer **Table 1 for elements and detection limits**):

- XRF borate fusion for major elements
- Multi-element analyses by ICP-OES/MS.

**Table 1: Elements to be analysed and detection limits for each element**

XRF borate fusion for major elements			
Element	Reporting Limits	Element	Reporting Limits
Al <sub>2</sub> O <sub>3</sub>	0.01-100%	Fe <sub>2</sub> O <sub>3</sub>	0.01-100%
Na <sub>2</sub> O	0.01-60%	V <sub>2</sub> O <sub>5</sub>	0.01-10%
BaO	0.01-70%	K <sub>2</sub> O	0.01-70%
P <sub>2</sub> O <sub>5</sub>	0.01-55%	CaO	0.01-60%
MgO	0.01-100%	SiO <sub>2</sub>	0.01-100%
Cr <sub>2</sub> O <sub>3</sub>	0.01-5%	MnO	0.01-93%
TiO <sub>2</sub>	0.01-100%	LOI (1000)	-11
Multi-element analyses by ICP-OES/MS			
Element	Reporting Limits	Element	Reporting Limits
Al	0.01-25%	Eu	0.05-1000ppm
Nd	0.1ppm-1%	Tb	0.05-1000ppm
As	3ppm-1%	Ga	1-1000ppm
Ni	5ppm-5%	Te	1-1000ppm
Be	1-2500ppm	Gd	0.05-1000ppm
Pb	2ppm-5%	Th	0.1-1000ppm
Bi	0.1-1000ppm	Ge	1-1000ppm
Pr	0.05-1000ppm	Ti	0.01-30%
Cd	0.2ppm-1%	Ho	0.05-1000ppm
Rb	2ppm-1%	Tl	0.5-1000ppm
Ce	0.1ppm-1%	In	0.2-1000ppm
Re	0.05-250ppm	Tm	0.05-1000ppm
Co	0.5ppm-1%	La	0.1ppm-1%
Sb	1ppm-1%	U	0.5ppm-1%
Cs	0.1ppm-1%	Lu	0.05-1000ppm
Sm	0.1-1000ppm	W	5ppm-1%
Dy	0.05-1000ppm	Mo	2ppm-1%
Sn	1ppm-1%	Y	0.5ppm-1%
Er	0.05-1000ppm	Nb	2ppm-1%
Ta	0.5ppm-1%	Yb	0.1-1000ppm



#### 4. Mineralogy - Bulk Modal Analyses

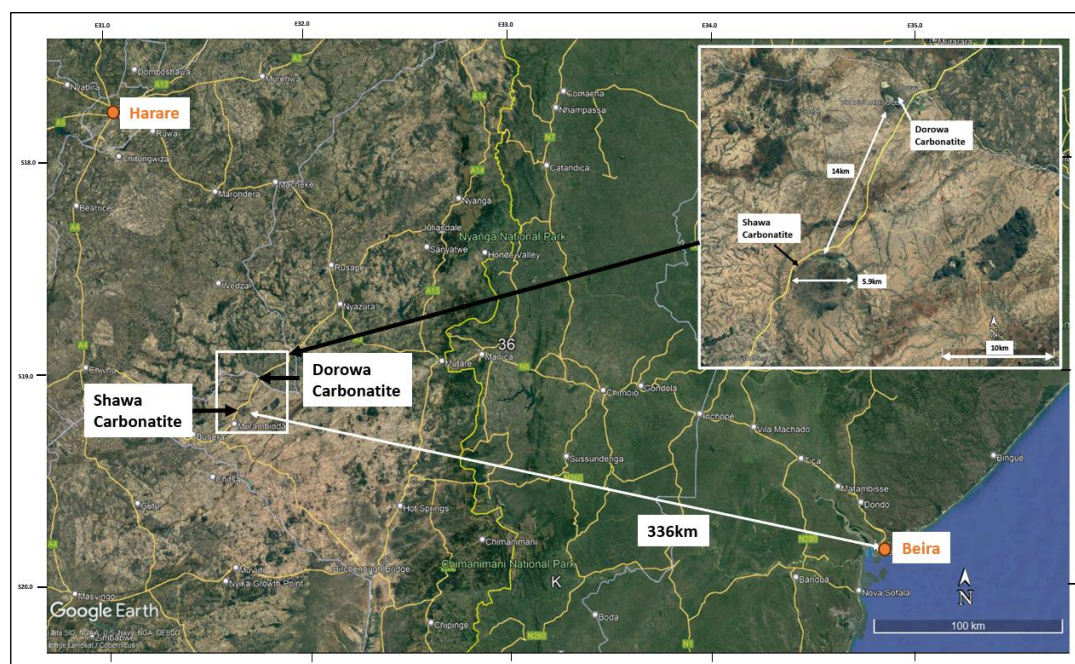
A total of two (2) transverse polished sections will be prepared for each sample. The polished sections will undergo analysis by TIMA (Bulk Mineralogical Analysis) in order to quantify the mineral components of the sample. The BMA mode analyses particles on a two-dimensional surface using a line scan method. The information obtained from this mode of analysis is modal and not textural. The combination of XRD and BMA will be used to determine the mineral assemblage present in the samples quantitatively. Please note the XRD will not be reported as the BMA has lower detection than the XRD.

#### 5. Flotation Test Work

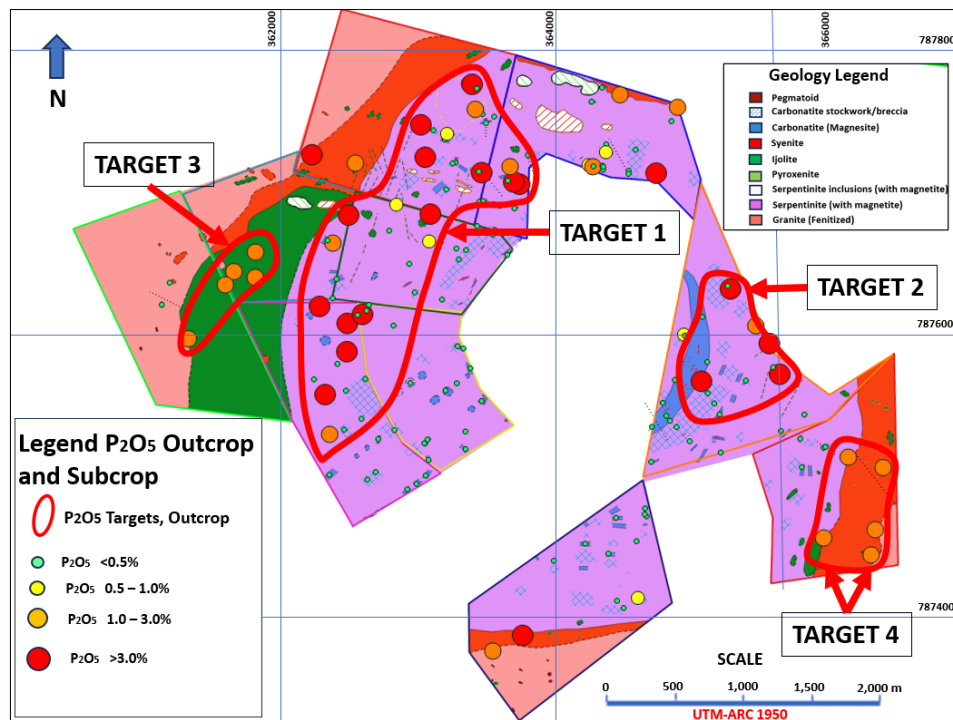
Allowance to perform the following scoping tests:

- Three (3) grind sizes
- Reagents – 5 rougher
- Cleaner – 5 cleaner

The scoping tests will be to see the amenability to upgrading via flotation and to target a phosphate recovery and final concentrate grade of >30 P<sub>2</sub>O<sub>5</sub>. Provision will be made to collect 6 product streams per test. All the flotation products will be analysed for major elements.



**Figure 1:** Shawa Carbonatite in relation to Harare and the Mozambican Beira Port shown on Google Earth image, yellow roads national tar roads. Insert of Shawa and adjacent Dorowa carbonatites.



**Figure 2:** Outcrop/subcrop P<sub>2</sub>O<sub>5</sub> assay results, as well as the hard-rock P<sub>2</sub>O<sub>5</sub> targets generated within the 10 Wickbury Mining Claims.

### Competent Persons' Statement

The information in this report, as it relates to Mozambique Exploration Results is based on information compiled and/or reviewed by Mr JN Badenhorst, who is a member of the South African Council for Natural Scientific Professions (SACNASP) and the Geological Society of South Africa (GSSA). Mr Badenhorst is a consultant of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been 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". Mr Badenhorst consents to the inclusion in this report of the matters based on the information in the form and context in which they appear.

### Cautionary Statement

The outcrop, subcrop and soil sampling conducted by MRG is an early-stage exploration, with the assay results seen as point data (no trenching or drilling has been conducted by MRG yet). The sampling results and data will be used for target generation and to guide further exploration. Due to the confidence level of the samples used for the Metallurgical testwork, the work is seen as done to Sighter Level of confidence.



This release is authorized by the Board of MRG Metals Ltd.

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