

8 December 2015

ASX Limited Central Park 152-158 St Georges Terrace PERTH WA 6000

# Montepuez Central Graphite Project – Maiden JORC Mineral Resource Information

Metals of Africa Limited (ASX: MTA) ("the Company") refers to the ASX Announcement dated 16 November 2015 in respect of a maiden JORC Mineral Resource at the Montepuez Central Graphite Project ("Announcement").

The Company includes over page a summary of all information material to understanding the reported estimates in the Announcement in accordance with the requirements of ASX Listing Rule 5.8.1. This information was previously presented in the JORC table section of the maiden JORC Mineral Resource announcement.

#### On behalf of Board of Directors Metals of Africa Ltd

For further information, please contact

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## **About Metals of Africa Limited**

Metals of Africa (ASX: MTA) is a diversified minerals exploration company dedicated to exploring for world class deposits in Africa. The Company's core commodity targets are: graphite and zinc. During 2015 the Company will maintain a dual focus: on its graphite assets (Montepuez and Balama) located in Mozambique and on its lead-zinc asset (Kroussou) located in Gabon. The Company prides itself on environmental best practice and positive community relations.

Metals of Africa is conducting a series of research and development activities and trials in both Australia and Africa in establishing the best process methodology in mineral exploration, mining and processing. This activity is for the benefit of the company's holdings and in the licensing of intellectual property as a means of bringing these ideas to the market.

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ABN 75 152 071 095





## **Competent Persons Statement**

The information in this report that relates to Exploration Results is based on information compiled by Ms. Cherie Leeden, who is Managing Director and who holds shares and options in the Company. Ms Leeden is a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ms Leeden consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

The information in this report that relates to Mineral Resources is based on information compiled by Mr Robert Dennis who is a Member of Australian Institute of Geoscientists and a full time employee of RPM Limited. Mr Dennis has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Dennis consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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# **Geology and Geological Interpretation**

The Montepuez Central Graphite Project is located within Xixano Complex and traverses the tectonic contacts between the Nairoto, Xixano and Montepuez Complexes. The Xixano Complex includes a variety of metasupracrustal rocks enveloping predominantly mafic igneous rocks and granulites that form the core of a regional north-northeast to south-southwest trending synform. Graphite-bearing mica schist and gneiss are found in the Xixano Complex.

Locally at the Montepuez Central Graphite Project, graphitic schists occur with dolerites, metasediments, amphibolites and minor intrusions of cross-cutting pegmatite veins. Mineralisation at the Elephant and Buffalo prospects has been structurally thickened by local parasitic folding and is considered to be structurally complex. The Lion prospect is composed of relatively 'simple' geology with interpreted steeply dipping west-northwest host lithologies. The graphite forms as a result of high grade metamorphism of organic carbonaceous matter. The protolith in which the graphite formed may have been globular carbon, composite flakes, homogenous flakes or crystalline graphite.

### **Sampling and Sub-sampling Techniques**

Diamond core was sampled as quarter core at 1 or 2m intervals using a standard electric core saw. Core was always sampled from one side of the core for consistency. For RC drilling, a face sampling hammer was used with sampling conducted on 2m intervals and split using a riffle splitter.

Samples from the early stage drilling were submitted to Bureau Veritas Laboratory in Johannesburg, South Africa for sample preparation and analysis (approximately 36% of all samples), using the same procedures described for ALS. After the early stage drilling, samples were submitted to the ALS Minerals facility in Johannesburg, South Africa for sample preparation. Samples were weighed, assigned a unique bar code and logged into the ALS system. The entire sample was oven dried at 105° and crushed to -2mm. A 300g sub-sample of the crushed material was then pulverised to better than 85% passing -75µm using a LM5 pulveriser. The pulverised sample was split with multiple feed in a Jones riffle splitter until a 100-200g sub-sample was obtained. The sub-sample was dispatched to the ALS Minerals Laboratory in Brisbane, Australia for analysis.

## **Drilling Techniques**

Diamond core was the predominant drill method at Montepuez, using HQ3 and NQ3 core size diameter with standard triple tube. Core recoveries of 96% were achieved at the project. A minor amount of RC drilling program (365m) was conducted at Montepuez.

# **Mineral Resource Classification Criteria**

The Mineral Resource was classified as Indicated and Inferred Mineral Resource based on data quality, sample spacing, and lode continuity. The Indicated Mineral Resource was defined within areas of close spaced diamond and RC drilling of less than 200m by 50m, and where the continuity and predictability of the lode positions was good. The Inferred Mineral Resource was assigned to areas where drill hole spacing was greater than 200m by 50m, where small isolated pods of mineralisation occur outside the main mineralised zones, and to geologically complex zones.



#### **Sample Analysis Method**

Samples from the early stage drilling were analysed at Bureau Veritas Laboratory in Johannesburg, South Africa with the same methodologies described for ALS. Analysis of the samples was conducted at ALS in Brisbane using the following methods: Method C-IR18 Total Graphitic Carbon, Method C-IR07 Total Carbon, Method S-IR08 Total Sulphur, Method Ash-01 Ash Content, Method ME-GRA05g Loss on Ignition, Method ME-ICP06 Major Oxides, Method ME-MS81 Ultra Trace Level Method, and Method ME-ACD81 Four Acid Digest. The methods are appropriate for understanding graphite deposits and are total methods.

## **Estimation Methodology**

Ordinary kriging (OK) grade interpolation was used for the estimate, constrained by Mineral Resource outlines based on mineralisation envelopes prepared using a nominal 1.5% TGC cut-off grade with a minimum down-hole length of 2m. Three passes were used to estimate the blocks in the model and more than 98% of blocks were filled in the first two passes.

#### **Cut-off Grades**

The Mineral Resource has been reported at a 6% TGC cut-off selected based on other known economically viable deposits in the world. Grade tonnage information is included (Table 1) to demonstrate quantities and quality at variable cut-off grades.

#### **Mining and Metallurgical Methods and Parameters**

A total of 40 representative samples were collected from core from the various material type domains that occur at the Buffalo and Lion prospects. The samples were sent to Activation Laboratories Limited (Actlabs) in Thunder Bay, Ontario, Canada for MLA to characterise flake size distribution. The results of the MLA indicate that the project is characterised by relatively coarse flakes, as shown by approximately 56% of the project having large ( $180-300\mu m$ ) or jumbo ( $>300\mu m$ ) flakes.

Samples from Buffalo have been sent for Comminution (SMC) testing at JKTech in Brisbane and Separation testing at ALS Ammtec in Perth. The testwork is currently being conducted with the aim of characterising ore types and defining a flowsheet.

RPM has assumed that the deposit could potentially be mined using open cut mining techniques. No assumptions have been made for mining dilution or mining widths, however mineralisation is generally broad. It is assumed that mining dilution and ore loss will be incorporated into any Ore Reserve estimated from a future Mineral Resource with higher levels of confidence.

The high grade nature of the mineralisation, the size of the deposit and the high amount (>50%) of large and jumbo flakes observed during MLA testing support the CP's opinion that the project has potential for eventual economic extraction.

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Table 1 – Montepuez Graphite Project Mineral Resource Estimate

Grade	Incremental Resource					Cut-off	Cumulative Resource				
Range	Tonnes	TGC	V <sub>2</sub> O <sub>5</sub>	Contained	Contained	Grade	Tonnes	TGC	V <sub>2</sub> O <sub>5</sub>	Contained	Contained
TGC%	t	%	%	Graphite (t)	Vanadium (t)	TGC%	t	%	%	Graphite (t)	Vanadium (t)
1.0 - 2.0	80,302	1.97	0.05	1,582	44	1	83,527,774	8.81	0.23	7,357,009	190,620
2.0 - 3.0	1,396,495	2.55	0.06	35,639	887	2	83,447,472	8.81	0.23	7,355,427	190,576
3.0 - 4.0	2,653,909	3.69	0.09	97,805	2,466	3	82,050,977	8.92	0.23	7,319,788	189,689
4.0 - 5.0	7,529,132	4.53	0.12	340,970	9,296	4	79,397,068	9.10	0.24	7,221,983	187,223
5.0 - 6.0	10,245,400	5.50	0.14	563,119	14,849	5	71,867,936	9.57	0.25	6,881,012	177,927
6.0 - 7.0	7,146,042	6.51	0.17	465,033	12,497	6	61,622,536	10.25	0.26	6,317,894	163,079
7.0 - 8.0	7,505,020	7.54	0.20	566,217	14,861	7	54,476,494	10.74	0.28	5,852,861	150,582
8.0 - 9.0	8,431,197	8.52	0.22	718,663	18,307	8	46,971,474	11.26	0.29	5,286,644	135,721
9.0 - 10.0	10,464,986	9.53	0.23	997,611	24,367	9	38,540,277	11.85	0.30	4,567,981	117,415
10.0 - 11.0	9,586,488	10.47	0.26	1,003,564	25,024	10	28,075,291	12.72	0.33	3,570,370	93,048
11.0 - 12.0	5,790,582	11.51	0.29	666,225	16,595	11	18,488,803	13.88	0.37	2,566,806	68,024
12.0 - 13.0	3,523,078	12.38	0.31	436,144	10,973	12	12,698,221	14.97	0.41	1,900,581	51,428
13.0 - 14.0	2,104,757	13.44	0.36	282,811	7,583	13	9,175,143	15.96	0.44	1,464,437	40,455
14.0 - 15.0	2,488,293	14.81	0.46	368,471	11,403	14	7,070,386	16.71	0.46	1,181,626	32,872
15.0 - 20.0	4,101,168	17.47	0.47	716,360	19,148	15	4,582,093	17.75	0.47	813,155	21,469
> 20.0	480,925	20.13	0.48	96,796	2,321	20	480,925	20.13	0.48	96,796	2,321
Total	83,527,774	8.81	0.23	7,357,009	190,620						