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Jangada Mines plc ('Jangada' or the 'Company') Positive Metallurgical Tests Highlight Potential of South America's Largest PGM Project

Jangada Mines plc, a natural resources company developing South America's largest and most advanced platinum group metals ('PGM') project, Pedra Branca, is pleased to announce positive results from its recent metallurgical test work initiated to establish the optimal process flow sheet for the recovery of precious and base metals including chrome.

Overview

- Results of metallurgical test work demonstrate that the inclusion of magnetic separation could materially positively impact the economics of the Pedra Branca PGM project in north-eastern Brazil
- Initial conventional test work yielded strong results in line with open pit PGM projects in South Africa, the world's largest regional PGM producer
- Addition of magnetic separation increased recoveries of PGM and yielded unexpectedly high gold and chrome grades in pre-concentrate with samples demonstrating:
 - Pre-concentrate PGM grades up to 8.1 g/t
 - \circ Average gold grades of 15 g/t, with the highest being 75.5 g/t
 - \circ Pre-concentrate chrome ('Cr₂O₃') grades of 42%
- Magnetic pre-concentration will now be incorporated into an optimised flow sheet, expected to result in further significant efficiencies than originally anticipated including reduced plant size, CAPEX and OPEX
- Economic studies expected to be completed imminently and anticipated to positively reflect the recent 53% increase in PGM resource to 1.45 million ounces (as announced on 15 May 2018) and results from metallurgical tests

Brian McMaster, Chairman of Jangada Mines, said: "The potential of this project keeps improving. These metallurgical tests not only underline the current potential but highlight that, with the inclusion of magnetic separation in a processing circuit, we can significantly improve the economics of Pedra Branca. On conventional processing, the PGM recoveries are already in line with the world's low-cost producers' recoveries, with metal credits including nickel, copper and cobalt adding further value. With magnetic separation, we can raise general recovery rates and reduce the feedstock requirements for recovery/production targets, which in turn lowers the CAPEX and OPEX numbers. The unexpected recovery rates from gold were a further bonus. We are now looking to include these findings into future studies, which when finalised will demonstrate the true potential of South America's largest PGM project."

Further Information

The initial metallurgical testing, conducted in conjunction with independent consultants, SGS Geosol Laboratorios Ltda, in Brazil, was based on a conventional circuit, including crushing, milling and froth flotation, which is the traditional processing route for PGM-Nickel-Copper deposits such as Pedra

Branca. Mineral samples submitted for the flotation circuit produced recoveries for the PGMs in line with Company's expectations and were comparative to existing open pit PGM operations globally.

With deposits that contain elevated levels of chrome, as is the case with Pedra Branca, an additional processing separation step is required. Accordingly, and keeping in mind the published improved non-PGM metal credits, the Company investigated options for pre-concentration by magnetic separation, which yielded extremely positive results. These results confirmed the process to be a highly effective method for the extraction of chrome with recovery grades of pre-concentrate chrome (' Cr_2O_3 ') as high as 42%. PGM grades in the magnetically separated ore also demonstrated the potential for pre-concentration of ore before being processed by the flotation plant with pre-concentrate PGM grades as high as 8.1 g/t, while gold recovery was similarly surprisingly high with grades of c.15 g/t, the highest being 75.5 g/t. Notably, these magnetic separation successes have been achieved on the low-grade chrome intervals of the deposit; results from the higher-grade areas are anticipated to be even more significant.

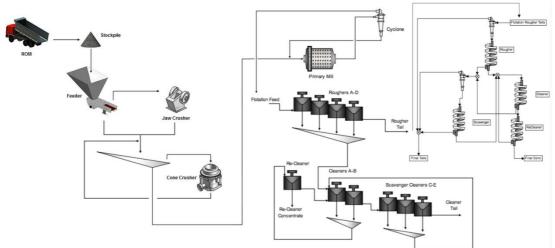
The implication of successful pre-concentration is a significantly higher plant feed grade, which translates into several benefits including a material reduction in potential plant size. This in turn reduces operating cost per ounce produced as well as a lower plant capital cost requirement. Additionally, magnetic separation is a waterless process allowing for reduced consumption and dependence on an important and periodically scarce natural resource.

Final Grade Concentrates – SGS Geosol test work results and metallurgical simulation, 2017/2018				
	Cleaner/Recleaner Flotation			
Metal	Mass Recovery ¹	Metallurgical Recovery	Concentrate grade	
	%	%		
Platinum	1%	67%	54.4 g/t	
Palladium	1%	68%	105.4 g/t	
Gold	1%	40%	2.02 g/t	
Nickel	1%	26%	7.91%	
Copper	1%	77%	6.11%	
Cobalt	1%	7%	0.14%	

The initial recovery rates are highlighted in the table below:

The current flowsheet design will produce a saleable chrome concentrate (42% Cr₂O₃) and a sulphide flotation concentrate containing palladium, platinum, gold, nickel, copper and cobalt. The current anticipated concentrate grade is 162 g/t PGM+Au, 7.91% nickel, 6.11% copper and 0.14% cobalt. The results for the magnetic pre-concentration will now be incorporated into the current flowsheet, which is expected to result in further efficiencies and material economic improvements.

The Board is working on further economic studies following the recent resource upgrade; it hopes to publish these imminently.



Source: GE21 Database and R L Bowers and D S Smit

Figure 1: Flowsheet explaining the process of precious and base metal recovery as anticipated at Pedra Branca. Magnetic separation will be introduced as pre-concentration method into the initial scoping level designs.

Note

1. Mass recovery refers to the mass of final concentrate recovered as a function of flotation feed material.

This announcement contains inside information for the purposes of Article 7 of EU Regulation 596/2014.

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Further Information

The Pedra Branca Project is the largest and most advanced PGM project in South America and currently has a JORC (2012) compliant resource of approximately 1.45 million ounces of PGM resource at a grade of 2.37 g/t Pd Eq, 140 Mlbs of Ni 26 Mlbs of Cu and 6.7 Mlbs of Co. The project is located 280 km from the port city of Fortaleza in the northeast of Brazil and holds three mining licenses and 43 exploration licences over an area of 50,000 ha. Previous operators have spent more than \$35 million on exploration and development activities, which include 30,000 metres of diamond core

drilling, geophysical surveys and metallurgical tests. The current resources are at surface and are amenable to shallow, open pit mining and conventional processing methods.