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# SIGNIFICANT POTENTIAL OF CANGA IRON ORE PROSPECT HIGHLIGHTED BY MAGNETIC PROFILE MODELLING

Modelling over the 10km long magnetic anomaly demonstrates strong similarities to the worldclass iron ore deposits of the Carajás – field exploration now underway

### Key Points

- 2D profile modelling of regional aeromagnetic data by Southern Geoscience demonstrates that the Canga Iron Ore Prospect has comparable magnetic susceptibilities and geometries to the magnetic responses modelled over Vale's giant Serra Sul ("S11D") iron ore deposit, located 90 km away.
- S11D is the largest iron ore mine in the world with currently over 4 billion tonnes of Reserves at +66% Fe<sup>1</sup> defined and production ramping up to 90Mtpa.
- The Canga Prospect is represented by a regional magnetic anomaly that runs east-west for a continuous strike length of some 7km and discontinuously for up to 10km. Within the anomaly, a high-grade iron canga outcrop has been mapped over a strike length of >900m and width of up to 150m with surface rock chip assays grading 62-69% Fe with low impurities.
- Canga material in the Carajás Mineral Province, typically up to 20m thick, is the common geological marker that sits directly over all the world-class iron ore deposits in the region, including the multi-billion tonne deposits owned by Vale.
- 2D profiling work of the regional aeromagnetic data has also been completed over the Salobo West IOCG targets and this is currently being compared to the profiles across the nearby 1.2 billion tonne Salobo copper-gold mine.
- Exploration field work has commenced this week with first results from the Company's mapping and soil and rock chip sampling expected by mid-November.

Centaurus Metals (ASX Code: **CTM**) is pleased to announce that the results of 2D magnetic profile modelling over the Company's recently discovered **Canga Iron Ore Prospect**, part of its 100%-owned Salobo West Project in northern Brazil, has demonstrated strong similarities to the world-class, high grade, iron ore deposits found in the Carajás Mineral Province.

Work carried out on the regional aeromagnetic data by independent geophysical experts Southern Geoscience demonstrates that the Canga Prospect has comparable magnetic susceptibilities and geometries to the responses modelled over Vale's giant Serra Sul ("S11D") deposit.

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<sup>&</sup>lt;sup>1</sup>Vale Data sourced from "Vale Production in 4Q16" Report, its 20-F Annual Report for 2016 and other public reports



S11D is the largest iron ore mine in the world with currently over 4 billion tonnes of Reserves at +66% Fe defined and production ramping up to 90 million tonnes per year.

Centaurus has already mapped a strike length of more than 900m of high-grade iron canga that is up to 150m wide. Assay results from the rock chip samples collected from the outcrop have returned grades of 62-69% Fe with low impurities.

The outcrop is located at the eastern end of a regional magnetic anomaly that runs east-west across the Salobo West tenement (SW1) for a continuous strike length of some 7km and discontinuously for up to 10km (see Figure 1).

The Company has commenced field exploration activities this week which includes mapping and soil and rock chip sampling over a number of prospective areas on the SW1 tenement, including the Canga and SW1-B Prospect areas, with first results expected by mid-November.

#### **2D Magnetic Profile Modelling**

The Company engaged geophysical consultants Southern Geoscience to work with the regional aeromagnetic data collected from the Brazilian Geological Survey (CPRM) to quantitatively compare the magnetic response of the Canga Prospect to that of the S11D iron ore deposit.

Magnetic profiles were completed over two important survey lines that cross the Canga Prospect and then compared to modelling of a profile that crosses the S11D Iron Ore mine. The S11D mine was chosen for the comparison as the main body has a similar E-W orientation to the magnetic anomaly seen at the Canga Prospect. The results shown in Figure 2 demonstrate that the Canga Prospect has a similar magnetic susceptibility and geometry as the S11D deposit.

The magnetic susceptibility of between 1.12 SI (eastern line) and 1.7 SI (western line) at the Canga Prospect corresponds well with magnetic susceptibility of the S11D deposit (1.2 SI). These readings indicate that the proto-ore (Banded Iron Formation – or BIF) of the Canga Prospect are likely to have similar magnetite content at depth (32-48% magnetite) to that of the S11D mine (34% magnetite).

Having said that, it is not the proto-ore but rather the high-grade enriched hematite ore that sits above the BIF proto-ore that is important from the perspective of potential economic exploitation.

The fact that the depth of the top of the magnetic model at the Company's Canga Prospect is estimated at 285-390m is very encouraging. This indicates the potential depth of the de-magnetising effect of the supergene and hypogene enrichment processes that produce the high-grade hematite ore. The estimated depth of the S11D magnetic model is 390m. Reports indicate that Vale have intersected the enriched hematite ore down to similar depths in drilling.

The geometry of the magnetic profiles at the Canga Prospect is also comparable to the S11D magnetic profile, with widths of approximately 500-550m. This comparison should, however, be treated with caution as the S11D deposit is significantly wider in places due to structural complexity that has caused thickening of the BIF units. The 500m wide magnetic bodies at the Canga Prospect may represent multiple units of varying thicknesses and only exploration drilling will confirm the exact nature and geometry of the mineralisation.

The same profile modelling work undertaken over the Canga Prospect has also been carried out over the Salobo West IOCG targets by Southern Geoscience. Results are currently being compared to profiles across the nearby massive Salobo copper-gold mine with the completed analysis to then be combined with historical geochemical results extracted from Anglo American DNPM reports (see ASX Release – 5 October 2017) to assist in defining preferred IOCG target locations within the Salobo West Project area. Preliminary results from this work are expected shortly.



#### **The Canga Prospect**

Centaurus geologists have identified and sampled an extensive iron laterite outcrop, known in Brazil as "Canga". The outcrop is more than 900m long, is up to 150m wide and has returned multiple high-grade rock chip assays in the range of 62-69% Fe with low impurities. As mentioned above the canga outcrop is located within a regional magnetic anomaly that runs east-west across the tenement area for up to 10km (Figure 2).

The canga material is a quality Direct Ship Ore (DSO) in its own right but, more importantly, is a consistent strong marker in the Carajás for high-grade, enriched hematite ore. Canga can be up to 20m thick and generally overlies the +66% Fe hematite ore that is mined to depths of +300m at Vale's massive Serra Sul (S11D) and Serra Norte iron ore mines.

The canga seen at Salobo West has the same chemical and physical characteristics as the canga that sits over these known iron ore deposits in the Carajás.

Exploration of the Canga Prospect will be undertaken in parallel with the surface exploration work over the Company's copper-gold prospect areas on the SW1 tenement at Salobo West.

#### Management Comment

Centaurus' Managing Director, Mr Darren Gordon, said the results of the 2D magnetic modelling had confirmed the potential scale of the recently discovered Canga prospect.

"All the indications from this work are very positive and exciting, highlighting the scale of the opportunity in what we know to be a world-class mineral province given the proximity of our tenements to the world's largest iron mine at S11D and one of the largest IOCG copper-gold mines at Salobo West.

"The next step for the Canga prospect is to combine the results of magnetic modelling with surface exploration work, currently underway, to generate an Exploration Target. We expect that this work should be completed later this Quarter, providing us with a focus for drilling next year.

"In the meantime, we are continuing to pursue the IOCG exploration opportunity, with our field exploration team currently on site and results from magnetic modelling of the key IOCG targets expected in the near future."

-ENDS-

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#### **Competent Person Statement**

The information in this report that relates to Exploration Results is based on information compiled by Roger Fitzhardinge who is a Member of the Australasia Institute of Mining and Metallurgy. Roger Fitzhardinge is a permanent employee of Centaurus Metals Limited. Roger Fitzhardinge 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'. Roger Fitzhardinge consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



#### Figure 1 – Salobo West Project, Location of the Canga Prospect over Regional Magnetics (AS).





Figure 2 - 2D Magnetic Modelling of Aeromagnetic Data comparing the Canga Fe Prospects (Eastern profile) with S11D Fe mine profile. Note that the Eastern profile crosses the Canga Fe model (cyan) and the SW1-A model (pink). From Southern Geoscience Report.





### APPENDIX B – TECHNICAL DETAILS OF THE SALOBO WEST PROJECT, JORC CODE, 2012 EDITION – TABLE 1

### SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	Commentary
Sampling techniques	<ul> <li>There is no historical sampling for the Salobo West Project mentioned in this report.</li> <li>9 surface rock chip samples were collected from outcrops for chemical analysis. Rock chip samples were taken and have been submitted to SGS Geosol laboratory in Parauapebas, Brazil.</li> </ul>
Drilling techniques	• There is no historical drilling on the Salobo West Project mentioned in this report.
Drill sample recovery	• No drill results are included in the release.
Logging	• All outcrop and sample points were registered and logged in the Centaurus geological mapping points database.
Sub-sampling techniques and sample preparation	<ul> <li>All geological samples were received and prepared by SGS Geosol Laboratories in Parauapebas, Brazil as 0.5-1.5kg samples. They were dried at 105°C until the sample was completely dry (6-12hrs), crushed to 90% passing 3mm and reduced to 200-300g. The samples were pulverised to 95% passing 150µm and split further to 50g aliquots for chemical analysis.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>Chemical analysis is completed at SGS in Belo Horizonte. Metal Oxides are determined using XRF analysis (XRF79C). Fusion disks are made with pulped sample and the addition of a borate based flux. Analysis at ALS is for a 10 element suite. FeO is determined using titration and LOI using loss determination by thermo-gravimetric analysis at 1000°C.</li> <li>The SGS lab inserts its own standards at set frequencies and monitors the precision of the XRF analysis. These results reported well within the specified 2 standard deviations of the mean grades for the main elements. Additionally the labs perform repeat analyses of sample pulps at a rate of 1:20 (5% of all samples). These compare very closely with the original analysis for all elements.</li> <li>Laboratory procedures are in line with industry standards and are appropriate for iron ore.</li> </ul>
Verification of sampling and assaying	<ul> <li>To date no QAQC samples were inserted by Centaurus for this project.</li> <li>Samples were collected by Centaurus field geologists. All assay results are verified by alternative Company personnel and the Competent Person before release.</li> </ul>
Location of data points	• The survey grid system used is SAD-69 22S. This is in line with Brazilian Mines Department requirements.
Data spacing and distribution	Not Applicable.
Orientation of data in relation to geological structure	• The extent and orientation of the canga mineralisation was based on field mapping and regional magnetic anomalies.
Sample security	• All samples are placed in numbered plastic sample bags and then a sample ticket is placed within the bag as a check. Sample request forms are sent with the samples and via email to the labs. Samples are checked at the lab and a work order is generated by the lab which is checked against the sample request.
Audits or reviews	No audit or review has been conducted on the projects to date.



### SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	Commentary
Mineral tenement and land tenure status	<ul> <li>Indext project interest project interest in potential dependence of project provided in the protection lease application (850.429/2016) for a total of circa 120km<sup>2</sup>.</li> <li>The tenements are part of an earn-in agreement with Terrativa Minerais SA. Centaurus has now met the minimum earn in obligations under the Agreement and perfected 100% title to the Salobo West tenements. Only the SW1 tenement has been transferred at this stage as the SW2 tenement is yet to be granted. Terrativa retain a production royalty of 2% over any minerals extracted from the tenements. The royalty may be converted to a 25% project interest should it be sold to a third party.</li> <li>All mining projects in Brazil are subject to a CFEM royalty, a government royalty of 2% on copper and gold revenues and 2-4% on iron ore revenues.</li> <li>Landowner royalty is 50% of the CFEM royalty.</li> <li>The project is covered by the Tapirape-aquiri National Forest. Exploration and mining is allowed in the forest with the correct licences. The Company has received the key environmental licences for non-ground disturbing exploration activities.</li> </ul>
other parties	<ul> <li>Although it is understood that exploration was carried out, no public exploration data has been found on the tenements to date.</li> </ul>
Geology	<ul> <li>The Salobo West tenements are located in the Carajás Mineral Province, located in the south-eastern part of the Amazon craton in northern Brazil. The CMP represents an Archean block divided into two distinct tectonic domains. Salobo West is located in the northern Carajás domain within the Cinzento Shear Zone</li> <li>The Salobo West tenements cover a portion of the Itacaiúnas Supergroup where it is contact with Xingu basement rock.</li> </ul>
Drill hole Information	<ul> <li>No drilling has been conducted on the Salobo West project.</li> </ul>
Data aggregation methods	<ul> <li>No cut-offs have been applied in reporting of the exploration results.</li> <li>No aggregate intercepts have been applied in reporting of the exploration results.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>No drilling has been conducted on the Salobo West Project.</li> </ul>
Diagrams	• Refer to Figures 1-2.
Balanced reporting	• All Exploration Results received by the Company to date are included in this report or can be referenced in previous ASX announcements.
Other substantive exploration data	<ul> <li>The Company is working with the CPRM geological and geophysical regional data sets.</li> </ul>
Further work	<ul> <li>The Company has engaged Mr Grant (Rocky) Osborne and Southern Geoscience Consultancy to carry out additional work on historical information found in Mines Department Reports.</li> <li>The Company has started mobilisation of its field team to the Salobo West project to carry out survey line clearing, geological mapping and soils geochemical sampling.</li> </ul>