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## NEW HIGH PRIORITY COPPER-GOLD PROSPECT "SERENDIPIDADE" IDENTIFIED AT SALOBO WEST

Historical reports reveal a 2.5km long and up to 700m wide Cu-Au-Ag-Mo soils anomaly – comparable to the geochemical signature for the nearby massive Salobo Copper-Gold Mine

#### Key Points

- New extensive copper-gold prospect, known as "Serendipidade", identified from archived Mines Department records relating to Centaurus' granted SW1 tenement at Salobo West in the Carajás Mineral Province ("CMP") the world's premier iron oxide-copper-gold ("IOCG") address.
- The Serendipidade Prospect, which was delineated from historical geochemical sampling by Anglo American in 2005-2008, is more than 2.5km long and up to 700m wide.
- Serendipidade has a very clear Cu-Au-Ag-Mo-(U-Fe-Mn-Co-As) geochemical signature, similar to the nearby massive Salobo Copper-Gold Mine, with these elements representing an excellent pathfinder for the discovery of IOCG mineralisation.
- The previously recognized SW1-A and SW1-B Prospect areas, identified by large-scale magnetic anomalies in favourable structural settings, have also been further strengthened by the presence of coincident Cu-Au-Fe soil anomalies identified from the historical datasets.
- Planning is now well advanced for the Company's maiden exploration program on the granted SW1 Project area with a second reconnaissance field visit currently underway to finalise the location of the preferred exploration camp site.
- The Salobo West Project is rapidly emerging as a highly significant exploration opportunity for Centaurus. The Project is located just 12km along strike from Vale's world-class Salobo Copper-Gold Mine and positioned in the Cinzento Shear Zone that hosts three of the top five known IOCG deposits in the Carajás (all with resources of +300Mt copper-gold ore).

Centaurus Metals (ASX Code: **CTM**) is pleased to announce that it has identified a new large-scale copper-gold prospect at its 100%-owned **Salobo West Copper-Gold Project** in the world-class **Carajás Mineral Province** in the north of Brazil following a comprehensive review of the DNPM (Brazilian Mines Department) archives.

The review work has uncovered historical exploration data for the 78km<sup>2</sup> Salobo West 1 ("SW1") tenement, with the discovery of archived documents from early stage exploration work undertaken on the SW1 tenement area in 2005-2009 by leading global mining company Anglo American. The data represents an unexpected but significant boost to the Company's upcoming copper-gold exploration program.

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The historical field work undertaken by Anglo American included detailed geological mapping as well as stream sediment and soil sampling. The availability of this data has highlighted the new high-priority Serendipidade Prospect, which was not previously identified by Centaurus due to the area having no regional magnetic response, and has confirmed the prospectivity of the previously defined SW1-A and SW1-B Prospects.

The data will assist Centaurus in fast-tracking its evaluation of all of the key copper-gold prospects on the SW1 tenement at Salobo West during the Company's upcoming exploration program.

#### The Serendipidade Prospect

The Anglo American exploration report lodged with the Mines Department (DNPM) describes detailed mapping of fertile host rocks (iron formations, meta-volcanic and sedimentary rocks) of the Grão-Para Group (part of the Itacaiúnas Supergroup) with evidence of multiple hydrothermal alteration zones (Na-K) along with hydrothermal breccias. The Serendipidade Prospect is also located along a favourable WNW-ESE structural trend and most of the units were mapped as sub-vertical with dips variable to the SW or NE.

The map below shows the location of the Serendipidade Prospect in the north-eastern portion of the SW1 tenement. Note the location of soil geochem survey line (A-B) that is referred to in Figure 2.



Figure 1 – Salobo West 1 Project Soils geochemistry (Cu ppm), from DNPM Partial Exploration Report of Anglo American, 2009.

The historical Anglo American soil samples were collected in two campaigns, initially along SW-NE regional lines and then N-S lines that were spaced 400m apart and with samples collected every 100m.

The Serendipidade copper-in-soils anomaly (+250ppm Cu) is more than 2.5km long and up to 700m wide and has the highest copper (861 ppm) and gold (145ppb) soil anomalies collected by Anglo from the SW1 project area. The anomaly is parallel to the regional strike and is controlled locally by both structural features and hydrothermal altered zones.



Figure 2 below shows a comparison of the geochemical signatures of the Serendipidade and SW1-B prospects compared to that of the world-class Salobo Copper-Gold Mine. It is evident that both the Serendipidade Prospect and Salobo Mine have very clear Cu-Au-Ag-Mo-(U-Fe-Mn-Co-As) geochemical signatures. All of these elements are excellent pathfinder elements for IOCG mineralisation.



#### Figure 2 – Geochemical comparison of SW1 Project (Section A-B, see Figure 1) and the Salobo Cu-Au Mine (from DNPM Report)

Given the quality of the Serendipidade Prospect signature, Centaurus will immediately prioritise opening new survey lines on 200m spacings over this area before carrying out in-fill and quality control (twin) soil sample lines to validate the historical data.

Additionally, a ground EM program is planned to test the Serendipidade Prospect area. This will be carried out once the survey lines are completed, expected for October-November.

#### The SW1-A and SW1-B Prospects

The SW1-A Prospect was identified as a distinct 4.5km long magnetic anomaly coincident with a ridge that has been mapped as part of the Igarapé Salobo Group of the Itacaiúnas Supergroup, which hosts all known IOCG deposits in the Carajás.

The north-west striking ridge that hosts the SW1-A Prospect intersects the larger Cinzento range that is associated with a regional scale east-west striking magnetic anomaly (SW1-B). It is also the location of the intersection of two regional scale structures (see Figure 3 below).

From the historical Anglo American report maps we can see that SW1-A Prospect has a strong copper-in-soils anomaly coincident with the 4.5km long magnetic signature and is up to 300m wide (see Figure 1). The prospect is also anomalous for gold and iron.

The SW1-B Prospect is identified as the strong E-W magnetic feature located along the southern edge of the Cinzento ridge. As can been seen in Figures 1 and 2 there is a moderate to strong Cu-Au-Fe-(Co-Ag) anomaly coincident with the E-W magnetic feature.



Figure 3 – Salobo West Copper Gold Project, Itacaiúnas Supergroup (green) overlies the Regional Magnetics (AS).



#### **Salobo West Exploration**

The Centaurus exploration team has now mobilized to the nearby regional centre of Parauapebas and the required environmental and forest safety training of the team is underway. A second reconnaissance site visit is underway this week, following the successful site visit reported on in the announcement earlier this week regarding the discovery of an extensive high-grade iron ore target known as the Canga Prospect (see ASX Announcement – 3 October 2017).

The key objective of these initial site visits is to finalise project logistics and determine the optimal location for the exploration field camp. The commencement of field exploration work is expected in the next 2-3 weeks. Initial ground-based field activities will focus on the Serendipidade and SW1-A Prospects, with the field team prioritising survey line clearing, geochemical sampling and geological and structural mapping.

Furthermore, the Company is attempting to retrieve all the original data from Anglo American and determine if any additional field work was completed on the tenement that was not referred to in their historical DNPM reports.

Centaurus continues to work with DNPM to expedite the approval of the Salobo West 2 Exploration Licence Application.

#### **Management Comment**

Centaurus' Managing Director, Mr Darren Gordon, said the Company was excited to have identified a new IOCG target within the Salobo West Project with such a high quality copper-gold geochemical signature.

"Finding archived reports has given us a great head start on exploration of the Salobo West 1 tenement. We now have three quality IOCG prospects on the SW1 tenement and a solid base of geological mapping and soil geochemical information that we can work with," he said.



"As the name suggests, finding the Serendipidade Prospect was a pleasant surprise, and we will now aim to refine the prospect with additional soil sampling, mapping and, most likely, a ground EM survey as soon as we can.

"The Carajás Mineral Province hosts the world's biggest concentration of IOCG deposits, and we believe we have an outstanding exploration opportunity right on the doorstep of one of the world's biggest copper-gold deposits. We are looking forward to seeing some exploration quality results come through in the coming months."

-ENDS-

Released by: Nicholas Read Read Corporate M: +61 419 929 046 **On behalf of:** Darren Gordon Managing Director Centaurus Metals Limited T: +618 9420 4000

#### **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.



#### The Carajás Mineral Province

Centaurus' Salobo West Copper-Gold and Pebas Copper-Gold Projects are located in the Carajás Mineral Province ("CMP"), which is considered one of the world's premier mining addresses. A total of fifteen worldclass mineral deposits lie within an area of just 150 x 100km, including nine IOCG deposits with resources of +100 million tonnes of copper-gold ore.

Resources and reserves of these IOCG deposits – in addition to several other IOCG prospects that are under exploration – collectively contain resources of more than 4.0 Bt of Cu-Au ore (see Figure 4 and Table 1 below).

Figure 4 – The Carajas Mineral Province with Schematic of Reserve Estimates (dark green) and Resource Estimates (light green) of the Nine Largest IOCG Deposits.



Three of the top five known IOCG deposits in the Carajás (all with resources +300Mt Cu-Au ore), as well as multiple exploration targets, are located along the Cinzento Shear Zone (see Figure 5). These deposits are structurally controlled by regional-scale W-NW striking, brittle-ductile shear zones hosted within the highly prospective volcanic and sedimentary rocks of the Itacaiúnas Supergroup.







Vale's giant Salobo Copper-Gold Mine is one of these deposits, and is arguably the second-biggest IOCG in the world behind BHP's Olympic Dam Mine. Salobo has Reserves of 1.2 billion tonnes at 0.63% Cu and 0.4g/t Au and produced approximately 176kt of copper and 317koz of gold in calendar year 2016<sup>1</sup>.

Centaurus' Salobo West Cu-Au project includes multiple distinct targets that display similar geochemical and geophysical characteristics and are located in the same geological context as the Salobo mine, just 12km along strike.

Centaurus is now only one of two companies that have significant tenement holdings within the main Cinzento Shear Zone – the other being leading global miner Vale.

#### **APPENDIX A**

#### Table 1 – Deposits of the Carajás Mineral Province (includes Cu-Au, Ni, Mn and iron ore)

Company	Deposits	Mineral Reserves	Mineral Resources	Annual Production	Historical Production	Distance from CTM EL's / EL applications (Km)
Vale	Igarape Bahia				3.1 Moz Au	12
Garimpeiros	Serra Pelada				2.5 Moz Au	20
Vale	Salobo	1,178Mt @ 0.63% Cu, 0.4 g/t Au	1,556Mt @ 0.64% Cu, 0.4g/t Au	176kt Cu & 317koz Au		12
Vale	Sossego	111Mt @ 0.65% Cu, 0.20 g/t Au	355Mt @1.0% Cu, 0.28 g/t Au	93kt Cu & 67koz Au		70
Vale	Breves		50Mt @ 1.22% Cu, 0.75 g/t Au			2
Vale	Pojuca Group		350Mt @ 0.57% Cu, 0.04 g/t Au			4
Vale	Alemao		230Mt @ 1.26% Cu, 0.83 g/t Au			12
Vale	Paulo Afonso		330Mt @ 0.95% Cu, 0.04 g/t Au			35
Vale	Furnas		550Mt @ 0.71% Cu; 0.3 g/t Au			70
Vale	Gameleira		535Mt @ 0.57% Cu, 0.12 g/t Au			70
Vale	Cristalino		454Mt @ 0.74% Cu, 0.13 g/t Au			90
Vale	Estrela		230Mt @ 0.50% Cu, 0.01 g/t Au			80
Vale	118		51Mt @ 1.30% Cu, 0.2 g/t Au			75
Avanco	Antas Norte		6.4Mt @ 2.38% Cu, 0.48 g/t Au	12kt Cu & 7.8koz Au		30
Avanco	Pedra Branco		18.6Mt @ 2.45% Cu, 0.61 g/t Au			50
Caraiba Metais	Boa Esperanca		100Mt @ 1.00% Cu			140
Vale	Carajas	2.6Bt @ 66% Fe		148Mtpa Fe		30
Vale	S11D	4.2Bt @ 66% Fe		40-90Mtpa Fe		45
Vale	Onca Puma	108Mt @ 1.53% Ni		24kt Ni		80
Vale	Azul	38Mt @ 28.4% Mn		1.7Mtpa Mn		22

\*Vale Data sourced from "Vale Production in 4Q16" Report, 20-F Annual Report and other reports; Other Company data sourced from respective web pages and presentations

<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



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

#### SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	Commentary	
Sampling techniques	<ul> <li>All technical information provided is in reference to the historical data that was obtained from the Mines Department (DNPM) Partial Exploration Report submitted by Anglo American on 27/8/2008.</li> <li>Soil samples were collected in two phases; initially on SE-NW lines 2.5km apart with samples every 100m, then on N-S lines 400m apart with samples every 50m. A 3-5kg sample was taken from the B horizon with the &lt;6mm fraction sent for assay.</li> <li>Anglo collected over 1,000 soil samples.</li> <li>Stream sediment samples were collected at selected points and sieved down to 1.0-3.0 kg samples using a 230 mesh sieve. 13 stream sediment samples were collected.</li> <li>There is no record of rock chip sample results in the report.</li> </ul>	
Drilling techniques	• There is no historical drilling on the Salobo West Project mentioned in the report.	
Drill sample recovery	No drill results are included in the release.	
Logging	• There is no historical logging on the Salobo West Project mentioned in this report.	
Sub-sampling techniques and sample preparation	<ul> <li>All soil samples were sieved to &lt;6mm before sending to Acme Laboratory.</li> <li>Stream sediment samples were sieved down to 1.0-3.0 kg samples using a 230 mesh sieve.</li> </ul>	
Quality of assay data and laboratory tests	<ul> <li>The DNPM report cites that analysis of the soil samples was completed at Acme Laboratories in Canada.</li> <li>Chemical analysis for soil and stream sediment samples was completed for gold by fire assay multi element (53 elements) using ICPMS.</li> <li>The laboratory certificates attached to the report show that the Acme lab inserted their own standards at set frequencies. The results for these QAQC samples are not elaborated on in the report, nor are the Anglo American QAQC procedures and results.</li> </ul>	
Verification of sampling and assaying		
Location of data points	• The survey grid system used is SAD-69 22S. This is in line with Brazilian Mines Department requirements. All sample and mapping points were collected using a hand held GPS.	
Data spacing and distribution	<ul> <li>Soil samples were collected on 100m or 50m spacing on section with distance between sections of 2.5km or 400m depending on location.</li> <li>Sample spacing was deemed appropriate for geochemical studies but should not be considered for Mineral Resource estimations.</li> <li>No sample composting has been applied.</li> </ul>	
Orientation of data in relation to geological structure	<i>in</i> • The extent and orientation of the mineralisation was interpreted based on field mapping.	
Sample security	• There is no information on sample security in the Anglo American report.	
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>The Salobo West project includes the exploration lease (850.430/2016) and an exploration 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.</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 environmental licences for non-ground disturbing exploration activities.</li> </ul>
Exploration done by other parties	<ul> <li>Historically the Salobo West tenements have been held by Anglo American and before that Vale. Centaurus has been able to identify a Partial Exploration Report at the Mines Department. The report has information on geological mapping, stream sediment sampling and soil sampling.</li> </ul>
Geology Drill hole Information	<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. The Salobo West tenements cover a portion of the Itacaiúnas Supergroup where it is contact with Xingu basement.</li> <li>The Company is targeting IOCG deposits. These deposits are generally structurally controlled, brittle-ductile shear zones hosted within the highly prospective volcanic and sedimentary rocks of the Itacaiúnas Supergroup.</li> <li>IOCG deposits in the Carajás are generally massive replacement bodies, associated with the magnetite-rich rocks that are the product of intense Fe-K hydrothermal alteration at high temperatures. This style of mineralisation is highly amenable to modern geophysical exploration techniques, especially EM, radiometric and gravity surveys.</li> <li>No drilling has been conducted on the Salobo West project.</li> </ul>
-	<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 1-5.
Balanced reporting Other substantive exploration data	<ul> <li>All Exploration Results received by the Company to date are included in this report or can be referenced in previous ASX announcements.</li> <li>The Company is working with CPRM geological and geophysical regional data sets.</li> <li>The Company is working with maps and data from the Mines Department report.</li> </ul>
Further work	<ul> <li>The Company has engaged Southern Geoscience to carry out work on the regional magnetics and radiometrics data as well as planning for ground EM surveys.</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>