

25 February 2019

## OUTSTANDING HIGH-GRADE NICKEL AND COBALT RESULTS FROM ITAPITANGA TRENCH WORK AND BULK SAMPLE COLLECTION

Scoping Study on track for completion by end of March

### Highlights:

- 40-tonne bulk sample collected from the three trenches at the Itapitanga Project returned the following outstanding trench assay results:
  - 90.0m @ 1.00 % nickel, 0.27% cobalt and 33ppm scandium in ITAP-BS00001;
  - 64.4m @ 1.67 % nickel and 0.03% cobalt in ITAP-BS00002; and
  - 30.0m @ 1.38 % nickel and 0.02% cobalt in ITAP-BS00003.
- Trench intersections start and end in mineralisation.
- The bulk samples collected from the trenches are sufficiently representative to be utilised for Feasibility Study-level testwork programs focusing on flowsheet optimisation.
- The processing of the bulk sample by Centaurus' joint venture partner, Simulus Group, through their state-of-the-art demonstration plant in Perth will produce a number of high-value products for the sustainable energy and emerging technology markets to assist in marketing negotiations with potential off-take partners.
- The bulk sample is currently en-route to Australia and is expected to arrive by the middle of April.
- Scoping Study due for completion by end of March.

Centaurus Metals (ASX Code: CTM) is pleased to report outstanding results from trench samples taken as part of the recently completed bulk sampling program at its **Itapitanga Nickel-Cobalt Project** ("Itapitanga" or "the Project") in northern Brazil. The results reinforce the scale, grade and quality of the Itapitanga deposit.

The rapid and positive progress being made at Itapitanga by the joint venture means that the project Scoping Study is expected to be completed and delivered by Simulus by the end of March 2019.

Simulus aims to show, at a high level, positive economics for the project, which would then allow them to make an immediate decision to proceed to a Pre-Feasibility Study (see indicative development timetable in Figure 1).

Since the innovative earn-in joint venture agreement between Centaurus and Simulus was executed in November 2018, Simulus, with the support of Centaurus' team in Brazil, has moved quickly to advance multiple work fronts required to support the development of the Itapitanga Project.

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#### **Bulk sample**

A 40-tonne bulk sample was collected in January to allow Simulus to undertake Feasibility Study-level flowsheet optimisation work at their state-of-the-art demonstration plant in Perth. Samples were taken from three trenches with each trench supplying different mineralisation types.

Trench ITAP-BS00001 focused on the collection of high-grade nickel-cobalt limonite mineralisation, which is found readily at or near surface over the project area. This high-grade nickel-cobalt trench returned **an outstanding trench assay result of 90.0m** *@* **1.00% nickel, 0.27% cobalt and 33ppm scandium.** 

Samples were also taken from Trenches ITAP-BS00002 and ITAP-BS00003, which focused on the high-grade nickel saprolite mineralisation, which generally sits below the limonite mineralisation in the profile but can occur locally at surface. These high-grade nickel trenches also returned strong results with trench assays including **64.4m @ 1.67** % nickel and **0.03% cobalt** in ITAP-BS00002 and **30.0m @ 1.38** % nickel and **0.02% cobalt** in ITAP-BS00003.

The location of the trenches can be seen on Figure 2 and full assay details of the trenches are set out in Table 1.

The bulk sample will provide a sufficiently large and representative ore sample for Feasibility Study-level flowsheet optimisation work to be undertaken, allowing the flowsheet already designed by Simulus to be confirmed and the requisite engineering design data to be collected.

Furthermore, processing of the bulk samples through the demonstration plant by Simulus will provide a number of high-value products for the sustainable energy and emerging technology markets to assist in marketing negotiations with potential off-take partners. The bulk sample is currently en-route to Perth and is expected to arrive by the middle of April 2019.

#### Management Comment

Centaurus' Managing Director, Mr Darren Gordon, said the newly established Itapitanga Joint Venture with Simulus was ideally positioned to become a first-mover in one of the world's largest undeveloped high-grade nickel-cobalt provinces.

"The Itapitanga Project is located in a region that hosts multiple un-developed, large-tonnage, high-grade nickel and cobalt resources. Our JV with Simulus, one of the world's premier hydrometallurgy and mineral processing groups, allows us to fast track through the feasibility stages of the project and advance towards development by leveraging off their specialised in-house capabilities for process design on nickel-cobalt projects.

"With multiple work fronts now in full swing and with Simulus rapidly advancing the project on behalf of the joint venture, we expect a steady stream of results and news-flow over the next six months. In parallel with an intensive development schedule at Itapitanga, we are also continuing to work towards securing the drilling and clearing licence for our planned drill program at the Salobo West Copper-Gold Project.

"And, in light of the rapidly changing market dynamics in both the Brazilian domestic iron ore market and the global seaborne market for high-grade ore, we are currently re-exploring options for the development of our shovel-ready Jambreiro Iron Ore Project."

Released by: Nicholas Read Read Corporate M: +61 419 929 046 -ENDS-

**On behalf of:** Darren Gordon Managing Director Centaurus Metals Limited T: +618 6424 8420



#### **Competent Person Statement**

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Roger Fitzhardinge who is a Member of the Australasian 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 – Itapitanga Nickel-Cobalt Project Indicative Development timeline



Completed on schedule

**G** Underway



#### Figure 2 – Itapitanga Nickel-Cobalt Project Trench Locations

(Trench results in yellow, select historical drill results in grey)



#### Table 1 – Bulk sample trench assay results from the Itapitanga Nickel-Cobalt Project

						Significant Intersections					
Trench ID	Target	Easting	Northing	mRL	Azi	From (m)	To (m)	Interval (m)	Ni %	Co %	Sc ppm
ITAP-BS00001	Northern (Limonite)	386351	9297723	224	215	0	90	90	1.00	0.27	33.0
ITAP-BS00002	Northern (Saprolite)	386024	9297233	205	314	0	64.4	64.4	1.67	0.03	6.0
ITAP-BS00003	Northern (Saprolite)	386072	9297190	201	135	0	30	30	1.38	0.02	6.0



# APPENDIX A – TECHNICAL DETAILS OF THE ITAPITANGA NICKEL-COBALT PROJECT, JORC CODE, 2012 EDITION – TABLE 1 SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	Commentary
Sampling techniques	<ul> <li>Trench samples for the 40 tonne bulk sample were taken from three trenches. Trench site were determined using RC and auger drill data. The trenches were lower to the mineralisation targeted horizons. 1 tonne samples were taken along the length of the trenches at 5 metre intervals and placed into big bags.</li> <li>Soil samples were collected at roughly 100-150m intervals along a fence line oblique to the mineralisation. Surface material was first removed and sample holes were dug to roughly 30cm depth. A 2-3kg sample was taken from the subsoil. The sample was placed in a plastic sample bag with a sample tag before being sent to the lab.</li> <li>Surface rock chip/soil samples were collected from in situ outcrops and rolled boulders for chemical analysis.</li> <li>Auger samples are taken by a hand-held auger. Sections are 200-400m apart with 50-100m between holes. Care is taken to try to remove up hole contamination from the auger bit during sampling. A 3-5kg sample was taken from the bit. The sample is placed in a plastic sample bag with a sample tag before being sent to the lab.</li> <li>The first phase of RC drilling involves drill sections that are 200 or 400m. Generally there is 100m spacing between drill holes on sections. Samples are split to make 3-5kg samples, a twin 3-5kg sample</li> </ul>
	is kept for metallurgical testwork. The sample is placed in a plastic sample bag with a sample tag before being sent to the laboratory.
Drilling techniques	<ul> <li>Auger drilling was completed using a hand-held auger with a 200mm auger bit. Drilling depth is determined by drill refusal.</li> <li>RC drilling was completed using a face sampling hammer (4.5"). Sample is collected from the sample</li> </ul>
	<ul> <li>cyclone in large plastic sample bags. Samples are then split either by riffle splitters or manually (fish bone method) where there is high moisture content.</li> <li>All RC holes were sampled on 1m intervals. Sample size, sample recovery estimate and conditions were recorded.</li> </ul>
	<ul> <li>All holes drilled to date have been vertical.</li> </ul>
Drill sample recovery	<ul> <li>RC sample weights are taken for all samples and a recovery estimate is made where the sample is not wet. Where the sample is wet a visual estimate of the sample recovery is made. To date the estimated recovery is approximately 80%, which is considered acceptable for a nickel-cobalt laterite deposit.</li> <li>To ensure the representative nature of the sample the cyclone and sample hoses are cleaned after each metre of drilling. The rig has two cyclones to facilitate the process. Additionally, extra care is taken when drilling through the water table or other zones of difficult ground conditions.</li> </ul>
Logging	<ul> <li>All trenches were logged and photographed.</li> <li>All outcrop and soil sample points were registered and logged in the Centaurus geological mapping points database.</li> <li>Geologists complete a visual log of the RC samples on 1m intervals at the time of drilling. Logging captures colour, rock-type, mineralogy, alteration and mineralisation style. A hand-held XRF is also used to take real time geochemical readings to assist in the logging process. Logging is both qualitative and quantitative.</li> </ul>
	Chip trays have been collected, photographed and stored for all drill holes to-date.
Sub-sampling techniques and sample preparation	<ul> <li>1m samples were taken from the cyclone and then split by rifle splitter (if dry) or manually (if wet) using the fish-bone technique. Sample weight is between 3-5kg.</li> <li>QAQC: A blank sample is inserted at the start of each hole. Standards (3 different standards are used on a rotating basis) are inserted every 20 samples. Field duplicates are completed every 20 samples.</li> <li>Sample sizes are appropriate for the nature of the mineralisation.</li> <li>All geological samples were received and prepared by SGS Geosol Laboratories in Parauapebas, Brazi as 0.5-5kg 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 for metal oxides is determined using XRF analysis (XRF79C). Fusion disks are made with pulped sample and the addition of a borate based flux. Analysis at SGS is for a 12 element suite. LOI is determined by thermo-gravimetric analysis at 1000°C. Fusion/XRF analysis is considered to be an industry standard to analyse nickel-cobalt laterite ore.</li> <li>Chemical analysis was completed for gold by fire assay and ICP for limit of 0.001ppm as well as multi element using ICP (IC40B) for select samples.</li> <li>SGS Geosol Laboratories insert their own standards at set frequencies and monitor the precision of the XRF and ICP analysis. These results reported well within the specified 2 standard deviations of the mean grades for the main elements.</li> </ul>



	• Additionally, the laboratories 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.
	Laboratory procedures are in line with industry standards.
Verification of sampling	• All samples were collected by Centaurus field geologists. All assay results were verified by alternative
and assaying	Company personnel and the Competent Person before release.
	• All RC sampling is completed by Centaurus field staff under supervision of Centaurus geologists.
	Logging is entered into the Centaurus database (MS-Access) on site. SGS Geosol send assay results as
	csv files which are imported into the Centaurus database by geologists. All data is validated by
	Centaurus geologists and the Exploration Manager.
	• Although no RC twin holes have been completed to date good correlation has been observed between
	the RC drill results and the auger result.
Location of data points	• To date drill collars have been picked up using hand-held GPS units. Drill collars and the project
	topography will be surveyed once the first phase of drilling is complete.
	• The survey grid system used is SAD-69 22S. This is in line with Brazilian Mines Department
	requirements. No mapping points are reported.
Data spacing and	<ul> <li>Soil sampling was completed on 200-400m line spacing with 50m between samples.</li> </ul>
distribution	<ul> <li>Auger drilling was completed on 200-400m line spacing with 50-100m between holes.</li> </ul>
	• The first phase of RC drilling was completed primarily on 400m line spacing with 100m between drill
	holes. There are localised cases where the section spacing is 200m and there is 50m between holes on
	section.
	<ul> <li>No sample compositing has been applied.</li> </ul>
Orientation of data in	• The extent and orientation of the mineralisation was interpreted based on initial field mapping, soil
relation to geological	sampling, auger drilling and regional geophysical interpretations.
structure	All drill holes to date are vertical and give a true width of the laterite mineralisation.
Sample security	• All samples were placed in plastic sample bags and then numbered. Bags are sealed and placed in
	larger bags (10 samples per bag) and then transported to the SGS Geosol laboratory in Parauapebas,
	PA. Sample request forms are sent with the samples and via email to the laboratory. Samples are
	checked at the laboratory and a work order is generated by the laboratory which is checked against
	the sample request.

#### SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	Commentary
Mineral tenement and land tenure status	<ul> <li>The Itapitanga project includes one exploration licence 850.475/2016, for a total area of circa 50km<sup>2</sup>.</li> <li>The Itapitanga Project is part of an earn-in Agreement where the project partner Simulus can earn up to an 80% interest in the project via delivering a Definitive Feasibility Study. Centaurus will be free-carried throughout the various exploration and evaluation phases until financing is arranged and a decision to mine is made (refer to ASX Announcement on 27 November 2018: Centaurus Secures Nickel-Cobalt Development JV at Itapitanga).</li> <li>All mining projects in Brazil are subject to a CFEM royalty, a government royalty of 2% on base metals revenues.</li> <li>Landowner royalty is 50% of the CFEM royalty.</li> <li>The project is located primarily in farming land.</li> </ul>
Exploration done by other parties	The Company is not aware of any historical exploration.
Geology	<ul> <li>The Itapitanga Project forms part of the southern extension of the ultramafic-mafic intrusive complex (2.8Ga) that intrudes the Archean Xingu basement granites in the western region of the Carajás Mineral Province.</li> <li>Nickel-cobalt laterite mineralisation generally occurs from surface and is associated with the ferruginous laterite of the ultramafic protore. Nickel mineralisation is associated with the saprolite that underlies the ferruginous laterite.</li> </ul>
Drill hole Information	<ul> <li>Assay results have been received for 155 drill holes for a total of 4,309m drilled.</li> <li>Refer to ASX Announcement dated 28 August 2018 for full detail on RC drill results.</li> </ul>
Data aggregation methods	<ul> <li>Continuous sample intervals are calculated via weighted average. Significant intersections considered a 0.50 % nickel or 0.08% cobalt cut-off and 2m maximum internal waste.</li> <li>There are three significant intersections for scandium only that considered a 20g/t scandium cut-off and 2m maximum internal waste. ICP assay results (scandium) only received up to ITAP-RC-18-084.</li> <li>Refer to ASX Announcement dated 28 August 2018 for detail on all drill results.</li> <li>Nickel equivalent ("Nieq") calculation assumes a nickel price of US\$12,000/t Ni and cobalt price of US\$50,000/t Co and recoveries of 98% Ni and 94% Co respectively (refer to Itapitanga Metallurgical</li> </ul>



Criteria	Commentary			
Relationship between	<ul><li>Results, ASX Announcement dated 6 July 2018).</li><li>All RC holes are vertical and have intersected the complete mineralisation profile into the underlying</li></ul>			
mineralisation widths and intercept lengths	un-mineralised protore. It is considered the holes are 90° to mineralisation and therefore intersections are considered to be of true width.			
Diagrams	Refer to Figures 1 and 2.			
Balanced reporting	• All exploration results received by the Company to date are included in this report or can be referenced to previous ASX releases.			
Other substantive exploration data	<ul> <li>The Company is working with the CPRM geological and geophysical regional data set (Carajás – Área I (1047)).</li> <li>The Company is working with the SRTM topographical surface (30m resolution).</li> <li>Dry bulk density estimations have been carried out on in situ samples. Samples were taken using a 30cm steel mould that is cut into the in-situ laterite mineralisation. Samples were then weighed wet and dry. The average dry bulk density for the mineralisation is 1.5t/m<sup>3</sup>.</li> </ul>			
Further work	<ul> <li>The Company engaged DroneGeo to complete topographical survey and drill-hole pick-up. The data is currently being processed.</li> <li>The Company has made applications for drilling in the vegetated and wetland areas that were not drilled in the first campaign.</li> <li>Additional metallurgical samples have been taken for further processing testwork.</li> <li>Refer to indicative development timetable in Figure 1.</li> </ul>			