

## 14 November 2011

# JAMBREIRO IRON ORE PROJECT SET TO DELIVER STRONG CASH FLOWS AND RETURNS: PRE-FEASIBILITY STUDY

# Board approves Commencement of Bankable Feasibility Study

- Jambreiro Pre-Feasibility Study (PFS) demonstrates excellent returns from Centaurus' first planned iron ore project in Brazil, with key highlights:
  - 2Mtpa operation delivering a 66% Fe final product into domestic steel industry in SE Brazil
  - Initial 8.5 year mine life based on friable Ore Reserve
  - Life-of-mine operating cash costs of A\$19.9/tonne of final product
  - Life-of-mine revenue of A\$1.25 billion and EBITDA of \$858 million
  - Annual operating cash flows of A\$101 million
  - Post-tax NPV of A\$289 million and IRR of 53%
  - Pre-production capital investment (including contingency) of A\$132 million
  - Premium grade product in high demand in the Brazilian domestic steel sector
- Project likely to be funded through a combination of debt and equity.
- Environmental Impact Assessment well advanced and expected to be lodged with Environmental Approvals Department of the Brazilian Government (SUPRAM) in February 2012.
- Commissioning of the Project on target for Q4 2013.
- Domestic production strategy to run concurrently with continuing strong exploration drive on export projects.

Centaurus Metals (ASX Code: **CTM**) is pleased to announce the results of the Pre-Feasibility Study ("PFS") on its flagship **Jambreiro Iron Ore Project** in south-east Brazil, outlining a proposed 2Mtpa project capable of generating revenues of **A\$1.25 billion** and EBITDA of **A\$858 million** over its initial 8.5 year life.

The strong economics of the proposed development – including a **A\$289 million post-tax NPV and IRR of 53%** for a 2Mtpa operation – have prompted the Centaurus Board to immediately approve the commencement of a Bankable Feasibility Study ("BFS"), which is scheduled to be completed by the end of the third Quarter of calendar year 2012.

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This will pave the way for financing, construction and development of Centaurus' first iron ore operation in Brazil to sell a high-grade 66% Fe product into the domestic steel market in Brazil, becoming the cornerstone of Centaurus' Domestic Iron Ore Business.

Commenting on the PFS results, Centaurus' Managing Director Mr Darren Gordon, said: "*This is a very major milestone for the Company, particularly considering that we only secured this Project in mid-2010.* 

"In a very short space of time, we have delivered a maiden JORC resource, upgraded the resource base with successful drilling programs and delivered a high-quality Pre-Feasibility Study which confirms that Jambreiro will form the cornerstone of our Domestic Iron Ore Business in Brazil.

"The PFS clearly shows that Jambreiro is a very robust project, with strong technical fundamentals and excellent financial returns from an initial 8.5 year mine life based on the friable ore only. The exceptional economics are underpinned by the very low forecast operating cash costs, which are a function of the low stripping ratio and free-digging nature of the friable ore. This means that the operation can generate very strong margins and cash flows.

"While the PFS is based on an initial mine life of 8.5 years, the Company expects that the mine life should be able to be extended by at least a further 7 years with additional drilling of the current Inferred Resource base. We now have a great deal of confidence in the Jambreiro Project and its potential to underpin a highly profitable project for the Company.

"The Centaurus team has worked extremely hard in delivering this result for shareholders and, while there is still much work to be done, can be very proud of the results achieved to date. We are very pleased to be able to push the button immediately on commencement of a Bankable Feasibility Study which will establish a clear pathway to production for Centaurus."

#### Jambreiro Ore Reserve – Friable

The Company's total Measured, Indicated and Inferred Resource at Jambreiro presently stands at 116.5Mt grading 26.8% Fe with this Resource including both near surface friable mineralisation (67Mt) and underlying compact (49.5Mt) mineralisation. Of the Friable Resource base, 52.1Mt grading 28.0% Fe falls within the Measured and Indicated categories and this forms the basis of the initial Ore Reserves for the Project.

The PFS has enabled 94% of this Measured and Indicated Friable Resource base to be converted to Proven and Probable Ore Reserves of 49.0Mt grading 28.2% Fe. Full details of the Ore Reserve estimation were released separately earlier today. A summary of the Ore Reserve estimate is provided in Table 1 below.

The in situ friable Ore Reserve will provide the Company with approximately 17Mt of high quality hematite product with a high iron grade of 66.6% and low impurities (2.8%  $SiO_2$ , 0.7%  $Al_2O_3$  and 0.02% P) at a mass recovery of 37.6%, underpinning the initial 8.5 year mine life at Jambreiro.

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Ore Reserve Classification	Mt	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	LOI %
Proven	12.0	28.5	51.2	4.5	0.03	1.7
Probable	37.0	28.1	51.0	5.2	0.04	2.2
Total	49.0	28.2	51.1	5.0	0.04	2.1
Concentrate Production	17.1	66.6	2.8	0.7	0.02	0.4
Mineral Resource Classification						
Measured	13.5	28.4	51.0	4.4	0.04	1.7
Indicated	58.5	27.5	50.8	4.5	0.04	1.9
Inferred	44.5	25.4	53.0	4.4	0.05	1.6
Total	116.5	26.8	51.6	4.5	0.04	1.7

Mineral Resources are inclusive of Ore Reserves, Cut-off 20% Fe

#### **PFS Background and Assumptions**

Significant work has been undertaken in the following areas to facilitate the completion of the PFS, including:

- Estimating Measured and Indicated Resources;
- Pit designs and total material movements;
- Converting Resources into Proven and Probable Ore Reserves;
- Consideration of mine fleet requirements and costs over the initial life of the project;
- Detailed beneficiation test work and process flow sheet design;
- Initial plant design with detailed capital equipment lists and pricing;
- Financial assessment including detailed work on tax regime in Brazil; and
- Direct market information for the sales price of iron ore in the Brazilian domestic market.

The Study was prepared in conjunction with a number of Brazilian consulting groups including CNEC Worley Parsons, Contecmina Consultoria em Mineração ('Contecmina') and BNA Consultoria e Sistemas Ltda ('BNA').

CNEC Worley Parsons and Contecmina focussed on the process flow sheet, the plant design and infrastructure for the Project, including the associated capital and operating costs while BNA focussed on Mineral Resources and Ore Reserves estimations, mining fleet requirements and capital and operating cost estimates. The Company managed the financial modelling and economic assessment of the Project.

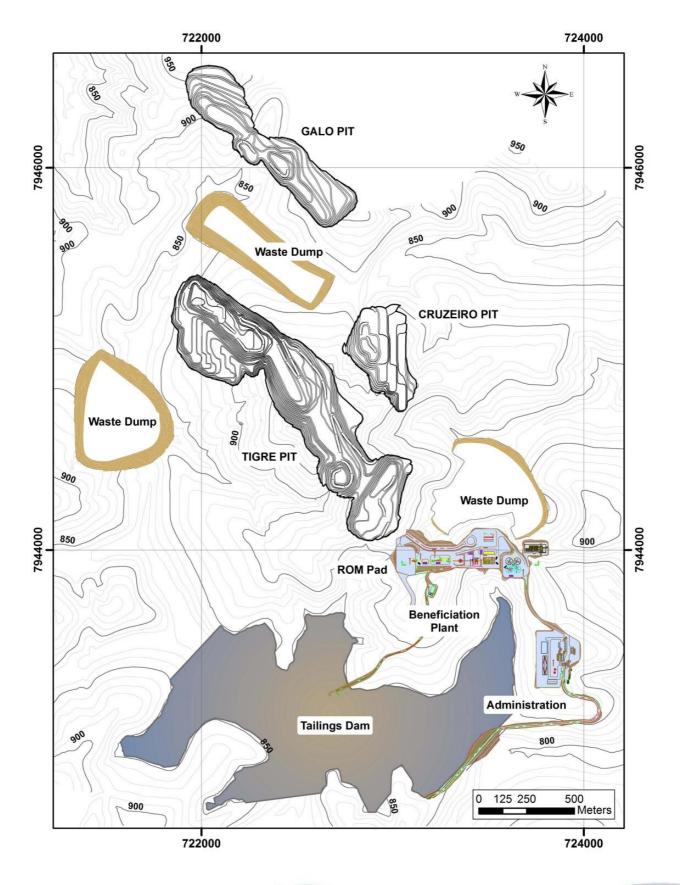
The key assumptions used in the PFS are set out in Table 2 below with key financial outcomes set out in Table 3. The Site Layout Map for the Jambreiro Project is shown in Figure 1 below.

The PFS for Jambreiro is based on annual production of 2Mtpa of 66% Fe final product, all sales into the domestic market at Mine Gate prices and initial Friable Proven and Probable Ore Reserves of 49.0Mt grading 28.2% Fe (94% conversion of the total friable Measured and Indicated Resource base). Under this scenario, the initial project has an 8.5 year mine life and delivers a post-tax NPV<sup>8%</sup> of A\$288.7 million and an IRR of 53%.

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## Table 2 – Key PFS Assumptions

Key Assumptions	
Ore Reserves	49.0 Mt
Grade	28.2% Fe
Mass Recovery per dry tonne	37.6%
Reserve – Final Product	17.1 Mt
Grade	66% Fe
Waste Movement	46.0 Mt
Total Material Movement	95.0 Mt
Waste to Ore Ratio (LOM)	0.94 to 1
Production Rate	2Mtpa
BRL to AUD Exchange Rate	1.65 to 1
AUD to USD Exchange Rate	1 to 1
Sales Price – Mine Gate	US\$73 per DMT
Discount Rate	8%

## Table 3 – Key Financial Outcomes of PFS

Key Financial Outcomes	Total
Total Revenue	A\$1.25 billion
Cash Surplus – Pre Tax	A\$745 million
Cash Surplus – Post Tax	A\$499 million
EBITDA	A\$858 million
Capital Costs	A\$132 million
Annual Operating Cash Flow	A\$101 million
Operating Cash Cost (per tonne Product - LoM)	A\$19.9 per tonne
NPV <sub>8%</sub> Pre- tax	A\$450 million
NPV <sub>8%</sub> Post- tax	A\$289 million
Pre Tax IRR	75%
Post Tax IRR	53%

## **Capital Costs**

The total capital cost for the Project has been estimated at A\$131.6 million, which at A\$66 per tonne of annual production, is a low capital cost by industry standards. This excludes the cost of the mining fleet, which will be leased and is included within operating cash costs.

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## Table 4 – Jambreiro Project Capital Cost Schedule

Capital Equipment	Total (A\$ M)
DIRECT COSTS	
Sizing & Screening	20.9
Beneficiation	38.4
Product Handling	10.0
Tails Management & Water Recovery	9.4
Water Supply	6.8
Power Supply	5.1
Site Infrastructure & Support Services	15.0
Commissioning, Spares & First Fill	6.1
TOTAL DIRECT CAPEX	111.7
Detailed Engineering & Construction Management	8.1
Contingency	11.8
TOTAL CAPEX	131.6

The relatively low capital costs are predominantly a function of the ore type at Jambreiro. As a highly friable, naturally liberated ore, it requires only basic comminution equipment in the circuit to break up the small amount of loosely agglomerated material. A low ball charge grinding mill is used to control product silica levels to suit various customer requirements.

The major silica separation task is performed in wet high intensity magnetic separators (WHIMS) after initial removal of a small amount of magnetite direct to final product.

A little under half of the direct capital investment is for the physical equipment items with the balance of investment required for earthworks, supply and placement of reinforced concrete foundations, fabricated steel and piping, electrics and instrumentation.

#### **Operating Cash Costs**

The operating cash costs over the life-of-mine (LoM) are a very attractive at A\$19.9 per tonne of final product. A breakdown of the operating cash costs is provided in Table 5.

The friable nature of the ore at Jambreiro contributes significantly to the low operating cash costs of the Project. Mining costs are low as drill and blast of the ore is not required and the average life of mine strip ratio is 0.94:1. Processing costs are low as the ore only requires sizing before separation without any significant crushing given the iron in the ore is already naturally liberated from the silica before separation occurs.

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Table 5 – Jambreno Project Life of Mine Operating Cash Costs				
perating Costs	A\$ per Tonne Product			
ining (Incl Equipment Leasing)	8.1			

8.8

1.4

1.6

19.9

## Table 5 – Jambreiro Project Life of Mine Operating Cash Costs

The larger components of the operating cash costs are consumed in diesel fuel, labour and power. The cost of power has been estimated at BRL\$155 (A\$94) per Megawatt hour, fuel has been costed at BRL\$1.75 (A\$1.06) per litre and labour assumes a full time workforce of 330 people, which is typical of a project of Jambreiro's size in Brazil, utilising smaller, locally sourced plant and equipment under a company-operated mining fleet.

In addition to the operating cash costs, a Federal Government Royalty of 2% and Landowner royalty of 1.85% of the mine gate value of a shipment of ore will levied on all iron ore sales.

As product will be sold at the Mine Gate, transport costs have not been directly considered in the operating costs. However, transport costs have been studied during the PFS process. Transport costs are approximately R\$0.17 per tonne kilometre for A\$15 per tonne of concentrate to the likely customer base. For any sales opportunities priced as delivered to the customer, this transport cost will be able to be added to the Company's final sales price.

#### **Pricing Assumptions & Domestic Sales Market**

M

Administration

**OPERATING CASH COST** 

Contingency

Sizing, Screening & Beneficiation

Centaurus has undertaken significant analysis of the current pricing regime in the domestic market in Brazil using local consultants with extensive experience in the procurement of raw materials for the iron making business.

The iron ore pricing analysis indicates that iron ore grading 62% to 64% has a sales price in the domestic market of circa US\$75 per tonne at the Mine Gate.

The higher iron grade and lower impurities of the final product to be produced at Jambreiro is highly sought after by the domestic market. The opportunity to purchase consistent quality concentrate from long term, proven reserves will also differentiate Jambreiro products from the significant number of non-Vale suppliers to this domestic market.

After considering the market transactions during the last 12 months, the higher grade ore that will be delivered from Jambreiro and the more recent fluctuations in the global iron ore spot price, the Company has used a conservative pricing assumption of US\$73 per tonne for the period of the initial Project mine life. The Company believes this pricing assumption will facilitate early market penetration for Jambreiro products and can be improved soon after commencing production via delivery of high quality and consistent ore supply to the domestic market in Brazil. This potential upside has not yet been built into the current PFS financial assumptions.

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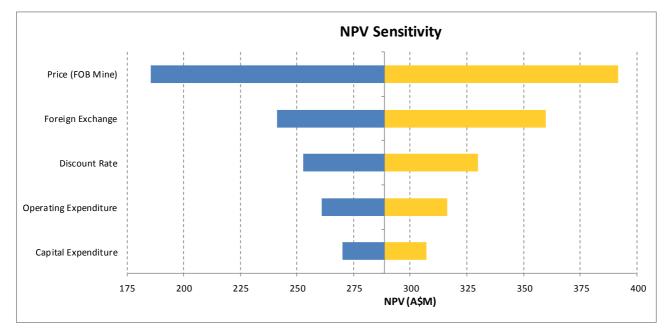
## **Sensitivity Analysis**

Sensitivity analysis indicates that the Project is most sensitive to iron ore prices followed by exchange rates, discount rates, operating expenditure and capital expenditure. The degree of sensitivity is represented in the Tornado chart in Figure 2 below and the values used for each variable under each case and the impact on posttax NPV is summarised Table 6 below.

2 Mtpa	Case				Post Tax – NPV (A\$M)					
Variable	-20%	-10%	Base	+10%	+20%	-20%	-10%	Base	+10%	+20%
Price (Mine Gate) USD/dmt	58	66	73	80	88	185.6	237.1	288.7	340.2	391.7
Capital Expenditure (\$M)	158	145	132	118	105	270.1	279.4	288.7	297.9	307.2
Operating Cash Costs (\$M/dmt)	23.8	21.8	19.9	17.9	15.9	261.0	274.8	288.7	302.5	316.4
Foreign Exchange Rate R\$/AUD	1.98	1.82	1.65	1.49	1.32	241.3	262.8	288.7	320.3	359.8
Discount Rate %	10	9	8	7	6	252.9	270.1	288.7	308.6	330.0

#### Table 6 – Values used for Sensitivity Analysis of 2 Mtpa Concentrate Production Scenario





## Project and Mine Life Upside beyond Friable Jambreiro Project

The JORC Mineral Resource base at Jambreiro currently stands at 116.5Mt grading 26.8% Fe and remains open at depth. The Friable component of the resource is 67.0 Mt grading 27.3% Fe with a further 49.5Mt grading 26.1% Fe forming the Compact component.

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Pit optimisation work using the same technical and economical parameters as the Ore Reserve study, with adjustment for the compact ore, indicates that the following JORC Resource lies within a larger conceptual open pit.

Conceptual Open Pit Size	93.7 Mt at 27.3% Fe (80.4% of the total Resource base)
Strip Ratio	1.2:1
Potential Final Product	32.2Mt of 66% Fe
Potential Mine Life	16.1 years

The conceptual in-pit Resource includes the current Ore Reserve of 49.0Mt that accounts for 94% of the friable Measured and Indicated Resources. The remaining 44.7Mt<sup>1</sup>, which is almost exclusively compact ore, represents a strong opportunity to continue mining beyond the initial friable project by at least a further 7 years. Beneficiation testing to date has confirmed a high grade, low impurity, saleable product can be produced from the compact ore.

It is the Company's intention to pursue cash flow in the first instance and undertake additional drilling to convert the remaining Inferred Resources (within the larger conceptual open pit limit) to Indicated status once profitable operations have commenced.

## **Financing of the Project**

It is expected that the Jambreiro Project's capital costs will be financed through a combination of debt and equity with, in the order of 70% debt funding, likely to ultimately be available. Initial discussions have been held with debt providers including development banks in Brazil and all groups have shown a strong interest in involving themselves with Centaurus to fund the Project due to the quality of the ore, the early payback generated from the strong cash flows and relatively low front end capital requirements.

These discussions will be converted into detailed term sheets capable of acceptance during the course of the Bankable Feasibility Study.

In respect of any equity component, the Company's recently expanded share register leaves it well positioned to arrange the necessary funds when required. The ability to participate in funding quality project development opportunities such as Jambreiro was one of the drivers for the Company's new major shareholder, Atlas Iron, making its investment in Centaurus.

#### **Commencement of Bankable Feasibility Study**

As a result of the robust economics of the Jambreiro Project demonstrated in the PFS, the Board has approved the commencement of a Bankable Feasibility Study for the Project which is expected to be completed by the end of September 2012.

The main deliverables to complete the BFS will be further drilling to upgrade the first four years of mine life into the Proven Reserve category, to collect bulk samples for pilot plant test work to confirm the consistency of beneficiation characteristics and to undertake further review of the debt financing, tax and product market considerations. The pilot plant test work will allow circuit optimisation for final equipment selection and detailed customer evaluations of the Jambreiro ore on a bulk scale.

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ACN 009 468 099 office@centaurus.com.au Telephone: +61 8 9420 4000

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<sup>&</sup>lt;sup>1</sup> This Resource total includes 24.7Mt of inferred resources, which by definition, is of insufficient confidence to have economic considerations applied that would enable them to be categorised as mineral reserves. There is no guarantee that further drilling will convert all Inferred Resources to Indicated Resources.



#### **Environmental Approvals and Project Development Timetable**

The Company continues to collect the seasonal environmental data required for it to lodge the key environmental approval document, the EIA/RIMA, in February 2012 with the Environmental Approvals Department of the Brazilian Government (SUPRAM). The current development timetable has the Company producing its first saleable ore from Jambreiro in the last Quarter of calendar year 2013. The timetable remains conditional on the receipt of all relevant environmental and mine approvals in Brazil.

#### **Ongoing Exploration Activities**

Concurrent with the completion of the BFS, the Company will continue to aggressively advance its export business via the exploration of the Serra da Lontra Iron Ore Project in the State of Bahia, Brazil. The surface mapping and sampling conducted to date shows that the Project has two key Prospect areas extending over 1 kilometre of strike length each with relatively high grade itabirite mineralisation grading between 35% Fe and 58% Fe.

-ENDS-

Released By:	On behalf of:
Nicholas Read	Mr Darren Gordon
Read Corporate	Managing Director
Mb: (+61) 419 929 046	Centaurus Metals Ltd
Tel: (+61-8) 9388 1474	Tel: (+61-8) 9420 4000

#### **Competent Person's Statement**

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Roger Fitzhardinge who is a Member of the Australasia Institute of Mining and Metallurgy and Volodymyr Myadzel who is a Member of Australian Institute of Geoscientists. Roger Fitzhardinge is a permanent employee of Centaurus Metals Limited and Volodymyr Myadzel is the Senior Resource Geologist of BNA Consultoria e Sistemas Limited, independent resource consultants engaged by Centaurus Metals.

Roger Fitzhardinge and Volodymyr Myadzel have sufficient experience which is relevant to the style of mineralization and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserve'. Roger Fitzhardinge and Volodymyr Myadzel consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information compiled by Beck Nader who is a professional Mining Engineer and a Member of Australian Institute of Geoscientists. Beck Nader is the Managing Director of BNA Consultoria e Sistemas Ltda and is a consultant to Centaurus. Beck Nader has sufficient experience, which is relevant to the style of mineralization and type of deposit under consideration and to the activity, which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserve'. Beck Nader consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

#### **Caution Regarding Forward Looking Statements**

The forward-looking statements made in this announcement are based on assumptions and judgments of management regarding future events and results. Such forward-looking statements, including but not limited to those with respect to reserve targets or the development of a mine at Jambreiro and the Company's capital expenditures and estimated future production involve known and unknown risks, uncertainties, and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any anticipated future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among others, the actual market prices of iron ore, the actual results of current exploration, the actual results of future mining, processing and development activities, changes in project parameters as plans continue to be evaluated, as well as those factors disclosed in the Company's filed documents.

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