

## DECEMBER 2013 QUARTERLY ACTIVITIES REPORT

17 JANUARY 2014



### DECEMBER QUARTER HIGHLIGHTS

#### JAMBREIRO IRON ORE PROJECT

- Jambreiro Mining Leases granted by the Ministry of Mines and Energy (MME) in Brazil, marking another key milestone for Centaurus towards its objective of becoming an iron ore producer in south-eastern Brazil.
- Detailed design work completed for some key project components including the water intake system, pipeline route and water storage and tailings dam.
- Board approves revised Jambreiro development strategy based on a low CAPEX 1Mtpa start-up project with the ability to subsequently expand the production base at Jambreiro to 2-3Mtpa.
- Construction scheduled to commence in Q2 2014 with first iron ore production targeted for Q1 2015.
- Discussions continuing with a leading Brazilian-based iron ore and steel group for a long term off-take arrangement.
- New staged development scenario enables Centaurus to proceed with the construction of a 1Mtpa operation in parallel with the finalisation of off-take arrangements.
- Discussions commenced to establish contractual arrangements with Rail and Port operators of the infrastructure required to establish a future export path for Jambreiro ore.

#### CORPORATE

- Cash reserves of \$4.8M at Quarter-end.



# AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

## JAMBREIRO IRON ORE PROJECT (CTM 100%)

The Jambreiro Iron Ore Project is located in the State of Minas Gerais, south-east Brazil, approximately 200km north-east of the State capital of Belo Horizonte (Figure 1).

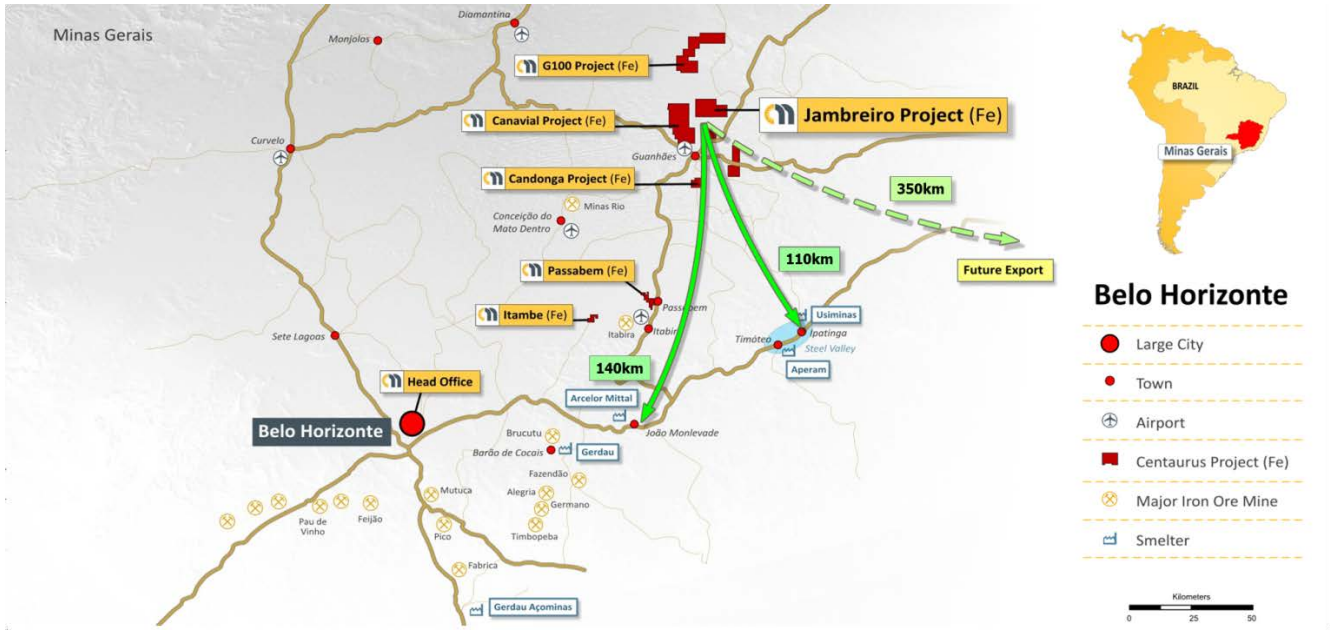


Figure 1: Location of Jambreiro Iron Ore Project in Brazil

### Mining Leases Granted

The Company recently secured the grant of the three Concessão de Lavra (Mining Leases) that comprise the tenement package at Jambreiro.

The grant of this group of Mining Leases by the Ministry of Mines and Energy (MME) in Brazil – which have now been officially gazetted in the Diário Oficial da União (DOU) – represents a key strategic asset of the Company for future mining operations at Jambreiro. The grant of the Mining Leases will also greatly assist Centaurus to complete the funding process for the development of the Jambreiro Project.

While the grant of the Mining Leases was not required to enable construction to commence at Jambreiro, it will ensure that Centaurus is able to commence operations and generate positive cash flows on completion of the construction process.

### Project Development/Engineering Work

During the Quarter, a number of project development activities were undertaken to progress the Jambreiro Project. This included a detailed review and refinement of the plant general arrangement and layout which has resulted in a further reduction of the plant footprint and therefore the earthworks required.

A significant focus of this effort has also been utilisation of the natural site contours to minimise power demand during operations. While this will be valuable for the full project life, it has also assisted greatly in reducing unit power consumption and allowed the project to consider a start-up utilising contracted higher unit cost diesel power while still achieving a reasonable cost per tonne of finished high-grade product.



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Competitive turnkey pricing for complete supply and installation has also been obtained, strengthening confidence in all previous study work. This was prepared for the original 2Mtpa project and is now being requoted for a 1Mtpa plant production rate to accommodate the change in the initial production rate as part of the staged development strategy approved by the Board at the end of the Quarter (see below).

Specific areas of detailed design work progressed and completed during the Quarter included the project water supply involving intake works, pipeline route and the combined water storage/tailings dam. The designs for these facilities have been phased, again assisting in the deferment of some capital costs under the new production scenario.

While not essential for a 1Mtpa start-up, the preferred locations for the power sub-stations and overall land requirement for the grid power supply have been progressed with CEMIG, the eventual grid power transmission authority.

Procurement activities were also refocused to include searches for suitable “stranded” (i.e. purchased but never installed) new and/or reliable used or refurbished equipment, capable of meeting the Jambreiro duty. This process has identified specific items such as the grinding circuit, which is available and will contribute to the initial CAPEX reduction under the staged development scenario without compromising the quality of the Jambreiro product.

Additional work has also been progressed to support the management of taxes levied on the interstate supply of goods and import duties on internationally sourced equipment by seeking out competent local manufacturers to assist in eliminating such levies.

### Staged Development Strategy

On 20 December 2013 the Company announced a staged development plan based on the commencement of production at 1Mtpa with the ability to subsequently increase to 2-3Mtpa. This revised development strategy will result in a substantial reduction in pre-production capital, enabling Centaurus to commence development with significantly less financing risk and in the shortest possible timeframe to take advantage of continued strong iron ore prices.

Centaurus is continuing to progress discussions with a leading Brazilian-based iron ore and steel group in respect to off-take and encompassing a long term, take-or-pay arrangement.

While these negotiations are progressing, the finalisation of this off-take arrangement is reliant on the re-commencement of construction of a new port development in the south-east region of Brazil. This new port development should provide an opportunity for the potential off-taker to optimise its iron ore consumption – including any future arrangement in respect to Jambreiro ore – between the domestic and export markets. At present, the timely completion of this partially constructed port capacity is awaiting the settlement of a sale of the port development to new international third parties.

As a result of these external logistical and infrastructure-related factors, it is difficult for Centaurus to accurately forecast when longer term off-take arrangements will be finalised. The new staged development approach significantly reduces Centaurus’ exposure to these external factors, while at the same time reducing its overall financing risk and providing greater certainty in its timeline to production. Development is scheduled to commence in early Q2 2014 with first production targeted for Q1 2015.



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At the lower production rate the Jambreiro Project will still produce the same high-grade, low impurity product as envisaged in the original project design and, in light of the discussions that have been held to date with potential customers in the domestic market, the Company is confident that it will be able to sell all ore produced from Jambreiro under the new development plan at market-based prices into the domestic or export markets.

The Company plans to establish a strong cash flow business from the initial 1Mtpa Jambreiro development and then expand its production rate into the domestic market or as soon as it has established a direct export path for the Jambreiro high-grade product into the seaborne market. No further environmental approvals will be required for this expansion as the Project is already approved for a 3Mtpa production rate.

### **Revised Base Case**

The proposed 1Mtpa operation for Jambreiro is estimated to require initial capital expenditure of A\$53 million (US\$47 million) with an average life-of-mine operating cost of A\$22 per tonne (US\$20 per tonne) of finished product, including royalties. The new project is based on an 18-year initial project life. The capital and operating cost estimates are based on an internal cost study which utilises definitive data developed for the 2012 Bankable Feasibility Study (BFS), updated to December 2013 prices on key components of the capital and operating inputs costs.

The major reduction in the capital cost, compared with the BFS estimate announced to the market on 5 November 2012, has been generated from the proportional reduction in the production rate and a significantly refined plant design which has reduced the processing plant footprint and allows the use of free-standing modules. The free-standing modules will require significantly reduced quantities of concrete and a smaller site installation labour force, resulting in a reduced project execution risk in plant construction.

In addition, some capital expenditure has been transferred to operating costs in this 1Mtpa phase, including contracting out the mining fleet, which is possible at the reduced throughput rates, and commencing the smaller project on diesel-generated power rather than establishing a new power line prior to positive cash flow. The plan also envisages construction of some permanent facilities after first production is achieved, with these items to be funded out of cash flow once the Project becomes cash flow positive.

The revised proposed 1Mtpa operation for the Jambreiro Project is based on the JORC 2004 Proven and Probable Ore Reserve estimate<sup>1</sup> of 48.5Mt at an average grade of 28.1% Fe. The Ore Reserve estimate was completed as part of the Bankable Feasibility Study (BFS) for Jambreiro that was announced to the market on 5 November 2012. A summary of the Ore Reserve estimate is provided in Table 1 below:

**Table 1 – Friable Ore Reserves Estimate, November 2012**

Friable Ore Classification	Reserve	Mt	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	LOI %
Proven		35.4	28.5	49.6	4.3	0.04	1.7
Probable		13.1	27.2	49.0	5.3	0.04	2.4
<b>Total</b>		<b>48.5</b>	<b>28.1</b>	<b>49.4</b>	<b>4.6</b>	<b>0.04</b>	<b>1.9</b>

<sup>1</sup> Refer to ASX Announcement on 5 November 2012 for full details of the Ore Reserve estimation. Given the conservatism built into the pit optimisation parameters used for the current Ore Reserve estimate, the Company is confident that the new operational costs will not result in a material change to the Reserve estimate. As a result of the change in production strategy, the Company intends to complete an updated Ore Reserve estimate during Q1 2014.



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The Friable Ore Reserve has been based upon a JORC 2004 Mineral Resource estimate<sup>2</sup> of 125.2Mt (Measured, Indicated and Inferred) at an average grade of 26.7% Fe. The Mineral Resource estimate includes both Friable and Compact material. In establishing the Friable Ore Reserve, only the Measured and Indicated components of the Friable Resource estimate (53.7Mt at 28.4% Fe) were considered.

Subsequent to the completion of the BFS, the Company announced an updated JORC 2004 Mineral Resource estimate<sup>3</sup> of 128.0Mt (Measured, Indicated and Inferred) at an average grade of 27.2% Fe. A summary of the updated Mineral Resource estimate is provided in Table 2 below:

**Table 2 – Mineral Resource Estimate, July 2013**

Mineral Classification	Resource	Mt	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	LOI %
Measured		45.7	28.7	50.7	4.1	0.04	1.6
Indicated		38.2	27.0	51.0	3.9	0.05	1.7
Inferred		44.1	25.9	52.0	4.0	0.05	1.4
<b>Total</b>		<b>128.0</b>	<b>27.2</b>	<b>51.2</b>	<b>4.0</b>	<b>0.05</b>	<b>1.5</b>

The November 2012 Ore Reserve estimate followed the completion of an extensive resource drilling program at Jambreiro, metallurgical testing including pilot plant testwork, pit design and mine scheduling and capital and operating cost estimations.

As a result of extensive metallurgical testwork, the Ore Reserve is scheduled to produce total concentrate production of 18Mt at 65% Fe. The open pit deposits will be mined using conventional excavator and truck mining methods.

The original BFS planned for an initial mine life of 9 years at a production rate of 2Mt per annum. The revised planned production rate of 1Mt per annum is expected to extend the life of the friable Ore Reserves to an initial 18-year project life.

The friable Ore Reserves are extremely well suited to the low cost gravity processes which continue to underpin the beneficiation flow sheet under the revised development scenario.

The key assumptions used in determining the revised production rate are included in Table 3 below. The only change in these assumptions from the BFS is the reduction in the planned production rate.

<sup>2</sup> Refer to ASX Announcement on 19 June 2012 for full details of the Resource estimate.

<sup>3</sup> Refer to ASX Announcement on 29 July 2013 for full details of the Resource estimate. This Resource estimate has not been updated to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.



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**Table 3 – Key Production Rate Assumptions**

Production Assumptions	
Ore Reserves	48.5Mt
Grade	28.1% Fe
Metal recovery per dry tonne	90%
Reserve – Final Concentrate Product	18Mt
Concentrate Product Grade	65% Fe
Waste Movement	46.8Mt
Total Material Movement (Including pre strip)	95.3Mt
Waste to Ore Ratio (Life of Mine)	0.97 to 1
Production Rate of Concentrate	1Mtpa

The mine production schedule is set out in Table 4 below:

**Table 4 – Jambreiro Mine Production Schedule**

Period (Year)	ROM Wet (Kt)	Fe%	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	P%	Mass Rec (%)	Product Dry (Kt)	Strip Ratio	Waste Wet (Kt)	Total Wet (Kt)
1 – 5	12,519	29.3	48.8	4.5	0.03	38.8	4,854	0.55	7,523	20,042
6 – 10	13,537	28.4	49.6	4.7	0.03	37.6	5,094	0.94	12,685	26,222
11 – 15	14,265	27.3	49.5	4.5	0.04	36.2	5,174	1.29	18,393	32,658
16 - 18	8,134	27.2	49.9	4.7	0.05	36.1	2,940	1.00	8,283	16,417
<b>Total</b>	<b>48,455</b>	<b>28.1</b>	<b>49.4</b>	<b>4.6</b>	<b>0.04</b>	<b>37.3</b>	<b>18,062</b>	<b>0.97</b>	<b>46,884</b>	<b>95,339</b>

Mine Dilution 2%, Mine Recovery 98%

### *Processing*

Processing will comprise a conventional beneficiation circuit using jig separators for the coarser +1.0mm fractions of the run-of-mine (ROM) ore and, a fines circuit comprised of a combination of spiral concentrator units and magnetic separator stages to upgrade the -1.0mm fractions to a 65% Fe combined final concentrate product. A small scavenge grinding circuit will recover any Fe units reporting to the tailings from both the jig and fines circuit.

As a result of the Jambreiro ore being highly friable and naturally liberated, the plant only requires limited comminution to break up the small amount of loosely agglomerated material. A low ball charge grinding mill will be used in the scavenge circuit and will also allow flexibility to control product silica levels to suit various customer requirements.

### *Capital Cost Estimate*

A breakdown of the estimated capital cost is shown in Table 5 below:



**Table 5 – Jambreiro Project Pre Production Capital Costs**

Capital Equipment	Total (A\$ M)
<b>DIRECT COSTS</b>	
Processing Plant	32.1
Site Infrastructure/Civil Works/Pre Strip/Commissioning	6.5
Tailings Management/Water Supply	4.4
<b>TOTAL DIRECT CAPEX</b>	<b>43.0</b>
<b>INDIRECT COSTS</b>	
Detailed Engineering/Project Management/Owner Costs	5.4
<b>CONTINGENCY</b>	<b>4.6</b>
<b>TOTAL CAPEX</b>	<b>53.0</b>

*Operating Cash Costs*

A breakdown of the operating cash costs is provided in Table 6 below:

**Table 6 – Jambreiro Project Life of Mine Operating Cash Costs**

Operating Costs	A\$ per Tonne Product
Mining	9.2
Processing & Beneficiation	8.6
Administration	2.2
<b>SITE OPERATING CASH COST (C1)</b>	<b>20.0</b>
Royalties – Government and Landowner	2.0
<b>TOTAL OPERATING CASH COSTS (C1 + Royalties)</b>	<b>22.0</b>

The larger components of the operating costs comprise contract mining, diesel fuel, labour and power.

Royalty costs include a Federal Government (CFEM) Royalty of 4% and Landowner royalty of 1.65% based on the value of iron ore sales revenue, less certain allowable deductions for taxes charged in Brazil. Based on the likely date for commencement of production in Q1 2015, the Company has used royalty rates that it expects will be implemented as part of a new mining code currently being considered by the Brazilian Federal Government. Should the new code not eventuate in the timeframe contemplated, the current royalty rates of 2% (CFEM) and 1.85% (Landowner) will apply.

The financial modelling assumes that product will be sold FOB mine gate and, as such, road transport costs have not been included in operating costs. The road transport costs have, however, been extensively studied.



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### *Commodity Prices and Foreign Exchange Rates*

The Company has estimated an iron ore price curve over the life of the Project using a composite of broker consensus and analyst forecasts. The FOB mine gate price to be received for iron ore concentrate delivered into the Brazil domestic market is referenced against the international CFR China 62% Fe price, adjusted for grade and quality characteristics and minus logistics cost charges back to the customer's location.

The FOB mine gate price curve ranges from a high of US\$53/dmt to a low of US\$31/dmt resulting in a Life of Mine (LOM) average price of US\$38/dmt. This price curve generates total LOM revenue of A\$752 million and EBITDA of A\$350 million.

The foreign exchange assumptions are set out in Table 7 below:

**Table 7 – Foreign Exchange Rates**

Foreign Exchange Rates	
2014 Exchange Rate AUD to BRL	2.05
2014 Exchange Rate AUD to USD	0.89
2014 Exchange Rate USD to BRL	2.30
Average LOM Exchange Rate AUD to BRL	2.00
Average LOM Exchange Rate AUD to USD	0.91
Average LOM Exchange Rate USD to BRL	2.20

### *Timeline to Production*

Subject to finalisation of an appropriate funding package, development is planned to commence in early Q2 2014, at the conclusion of the current wet season.

It is expected that the new base case scenario should see Jambreiro in production by Q1 2015 – in line with its published timetable – as all of the environmental licences required to start construction are already in place, the financing exercise has been simplified due to the reduction in capital cost and the removal of the absolute requirement to secure off-take prior to commencing development.

## **New Export Opportunity**

In conjunction with the development of the new base case production scenario for Jambreiro, the Company has also been actively pursuing potential avenues to export Jambreiro product using the existing and well established EFVM rail line and a number of port alternatives in the vicinity of both the Brazilian port of Vitória and the major Tubarão port complex in the State of Espírito Santo (Figure 2).

In this regard, the Company has commenced discussions to establish contractual arrangements with rail and port operators of the infrastructure required to establish a future permanent export path for Jambreiro ore. Shorter term contracts for suitable logistics services are available immediately for the project capacity now contemplated and further work is now in progress to establish long term permanent logistics capacity which will support a future export development option.

The Company is confident that an economic export business can be developed for Jambreiro on the back of the smaller base case domestic market production scenario.





Figure 2: Export Port and Rail Logistics in South-East Brazil

### CANDONGA IRON ORE PROJECT (CTM 100%)

The Candonga Project, located 33 km from the Jambreiro Project (Figure 3), has a JORC 2004 Mineral Resource estimate of 11.9 Mt grading 43.0% Fe<sup>4</sup> including 0.9Mt of high grade itabirite mineralisation grading 58.5% Fe. During the Quarter, the Company stepped up fieldwork and process testwork targeting the high-grade mineralisation at Candonga.

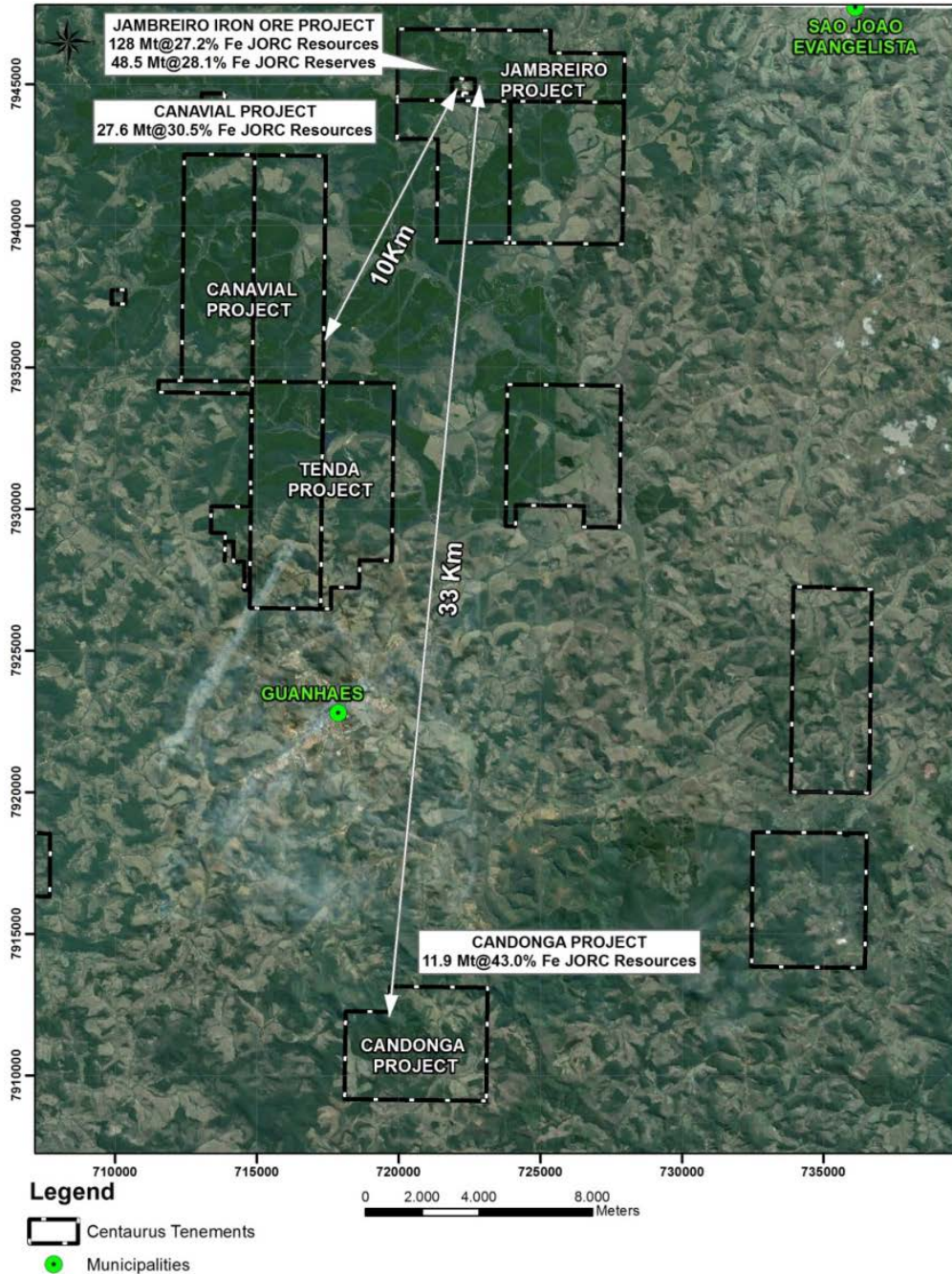
A second trenching program, including three trenches totalling 182m, was completed with results due in January 2014. Bulk in-situ samples were collected during the program for metallurgical testwork with the tests starting in December 2013 and results due in Q1 2014.

In addition to the field work, the Company successfully lodged the Final Exploration Report for the Candonga Tenement with the DNPM on 27 November 2013.

<sup>4</sup> Refer to the ASX announcements dated 8 August 2013 for full details of the Resource estimate

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In parallel, an application for a temporary Mining Licence (*Guia de Utilização*) is being prepared that allows mining of 300,000 tonnes of ROM material per licence and requires simplified environmental licences. The licence application is planned to be lodged in Q1 2014. The ore from this resource appears to provide a very complimentary product quality to Jambreiro product and the proximity of this deposit to the Jambreiro project would allow ore blending to achieve products which will service a broader range of customer requirements in the domestic market.



**Figure 3 – Location of Candonga Project relative to Jambreiro**



## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

### CORPORATE

#### Cash Position

At 31 December 2013, the Company held cash reserves of approximately A\$4.8 million.

#### Shareholder Information

At 31 December 2013, the Company had 195,747,919 shares on issue with the Top 20 holding 60% of the total issued capital. Directors and Senior Management held 5.2% of the total issued capital.

**DARREN GORDON**  
**MANAGING DIRECTOR**

#### 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. 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 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'. 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.*